OFFICE OF DIRECTOR OF EDUCATION
AND TEACHER TRAINING
SAN JOSE STATE TEACHERS COLLEGE

BETTER SCHOOLS

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A View of Progressive Education in American Public Schools

by

CARLETON WASHBURNE
MYRON M. STEARNS

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ABOUT THE AUTHORS

CARLETON WASHBURNE became a teacher shortly after being graduated from Stanford University in 1912. After gaining his first experience in rural and village schools he served for five years on the faculty of the San Francisco State Teachers' College. When he had completed his doctorate at the University of California he took the superintendency of the public school system in Winnetka, Illinois. These schools he transformed into an educational laboratory. The experiments carried forward there have become known around the world.

In addition to running his schools, Dr. Washburne lectures widely, writes school textbooks of a new kind, conducts educational research, and gives summer courses in various universities. His *New Schools in the Old World*, written in collaboration with Myron M. Stearns, is a survey of the progressive schools he visited during a recent tour of England and the Continent.

MYRON M. STEARNS is a New Englander who has spent more than fifteen years in California. When he was graduated from Stanford University in 1906 he expected to become a lawyer; later he gave up his law plans on account of defective eyesight. He has been engaged in such varied activities as motion picture production and the development of citrus fruit orchards, but he has devoted himself chiefly to travel and to magazine writing. He has contributed articles on child training and development to *The Ladies' Home Journal*; he is also a contributor to *The Saturday Evening Post*, *The Country Gentleman*, *Collier's Weekly*, *The Woman's Home Companion* and other periodicals.

A chance meeting with Dr. Washburne while returning from Europe led to a friendship that resulted first in a rather extensive series of articles on education, published in *Collier's Weekly*, and later, to the collaboration on *New Schools in the Old World* and *Better Schools*.

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PREFACE

Five years ago the authors of this book, Carleton Washburne, school superintendent, and Myron Stearns, magazine writer, met on a trans-Atlantic liner. They exchanged views—Washburne the opinions of an educator and research worker, Stearns the speculations and criticisms of a layman desiring better schools for his own children. Their discussions led to collaboration on a series of magazine articles concerning the changing conditions in American schools, Washburne's work with Individual Instruction at Winnetka, Illinois, and the trip of educational survey he was just completing. The idea in all of these articles was to popularize important information concerning schools, rendering it available to a larger circle than that of the scholastic leaders already in possession of it. During this work Stearns traveled from New York to California, visiting one important school center after another, and reporting on the improved educational methods that, here and there, he found. Later, the knowledge concerning American public school systems and problems that he collected made possible a further collaboration with Washburne on a small book that gave in more perma-

nent—though still merely popular—form the results of Washburne's European survey. The book appeared under the title "New Schools in the Old World."

But the biggest part of the work still remained to be done. There is a seething ferment in American education to-day. The Public Schools of the United States, with many different methods of teaching and widely varying results, present a complicated problem. Both parents and teachers, although their own dissatisfaction with traditional schooling is largely responsible for this prevailing ferment, find themselves confused by it, and puzzled as to the outcome of it all. They want to make their schools better, they want to find the best in the experiments of others and give their own children a newer, richer educational experience. But they do not know how.

There are books in profusion on American schools. Project method, platoon schools, Dalton plan, Individual Technique, revising the curriculum, vocational guidance, junior high schools and colleges, have all received detailed attention. There are also textbooks on education that try to summarize all these movements for the student. There is not, however, any non-technical book that selects for the layman and unspecialized teacher or school administrator some of the more

outstanding and successful experiments, and presents them in a way that will help one to understand and profit by America's new school ways.

Such a book is needed. With thousands of teachers and hundreds of thousands of parents all over the country willing and anxious to start or support movements for schools that will give their children a better chance in the world, there should be, to lend their interest direction and force, some sort of popular guide to what is going on in progressive American education.

With that goal in mind this volume, without academic pretensions, but embodying in untechnical form material that may prove useful to teachers as well as parents, has been prepared. It is not complete; it could not be without being so long and detailed as to defeat its purpose. It attempts, instead, to single out some of the most significant of the newer educational ideas, illustrating them with concrete examples of schools that have successfully worked them out. In some instances—as with the so-called "Dalton Plan"—the experiments are already quite widely followed; in others—as with A. H. Sutherland's "Mental Hygiene" results, obtained some time ago in certain of the Los Angeles schools—the facts are not so widely known. In each case, however, the effort has been merely to give a single

illustration of the particular advance, rather than any summing up of its adoption and use in different places.

The authors have attempted to show how those communities that have schools of the newer and better kind have secured them—how, therefore, other parents and teachers may get better schools for their own children.

There has been an effort to preserve the spirit of change and questioning that characterizes the more progressive schools and those who are responsible for them, to stimulate further thought and experiment.

The work has presented a difficult problem in the matter of organization. In order to increase its usefulness, work done in different parts of the country along particular lines has been brought together for comparison and emphasis. The subject as a whole has been divided into three parts. The first part deals with more general considerations and preliminary problems. The second part passes to more specific researches and experiments concerning what our children can most profitably be taught. The third part goes into method, and the newer function of schools to develop ability rather than be content with any mere transfer of supposedly valuable information.

Throughout the book there has been an effort

to present a still larger consideration—namely, the part education must play in our national and racial development, if our civilization itself is to improve or even survive.

Carleton W. Washburne
Myron M. Stearns

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PART I

CLEARING NEW GROUND

CHAPTER I

Schools and the Race

Not long ago a Columbia professor whose work in education is nationally known was discussing our American school problem.

"Here in America," he said, "we are making one of the greatest social experiments—perhaps *the* greatest social experiment—the world has ever seen, in attempting to make education universal. It's too soon to say definitely how it's going to turn out. We can't yet make even an intelligent guess. But we might as well get right down to bed rock by admitting that *so far* it's been an almost complete failure."

That is pretty strong language. Few educators are willing to agree with it. Accustomed to traveling with the main currents of accepted opinion, few parents, even, feel that public school education to-day is anything like a complete failure—disappointed as many are in the results public schools have secured with their own children. But here and there, the country over, independent thinkers, inside the academic field as well as outside, are

beginning to query searchingly the efficacy to date of our entire great educational experiment.

From the standpoint of giving children a tolerably good grasp of the three R's and some academic knowledge, our schools certainly are not failures. They give, in general, pretty good schooling. But from the standpoint of what they *might* give, indeed what they must give if children are to have a real chance to live and develop fully, and if the best parts of our present civilization are to survive, most schools may well be considered failures.

If this is true, we can see that two results are inevitable. The first is the tragedy of the children themselves: millions of children, turned over to the State for hours each day during the most precious years of their lives, to secure some of the necessary ingredients of happiness and success—*which they do not get.* The second result is the tragedy of the race. Among thinking people there can be little doubt that our Western civilization is at a critical point of its existence. To those who have never given the matter a thought, that seems absurd. Because we are comfortable, because we are prosperous and well fed, because the machinery of our civilization, especially here in America, seems to be running on the whole smoothly and efficiently, we are complacent. It is difficult to think of our

civilization going the way of past civilizations. Like our predecessors from the dawn of history, we feel that somehow we are different and that *our* civilization will endure. Yet unless we succeed, and succeed soon, in solving our educational problems in a way that will produce a saner, more group-conscious social order, the future of our nation, of our race, of civilization itself, seems dark.

The Precariousness of Civilization

In 1912 Chancellor David Starr Jordan of Stanford University was giving a course on the Unseen Empire of Finance to a roomful of students, in a room seating hundreds, with as many more as could crowd in standing against the walls. Dr. Jordan had just returned from a trip around the world. He had been interviewing ministers of finance, bankers, economists, statesmen, in all the important countries. He convinced his hearers, in that spring of 1912, as he had himself been convinced by his own observations, that a great European war was an impossibility. He showed that the finances of the world were so interlocked, and that the economics of the world were so international, that the bankers would never permit a world conflagration. He pointed out that without the consent of the bankers no nation would dare

to make war. Yet it was only two years later that what we have since come to call the World War began. Dr. Jordan, like many others, had failed to take full account of the frailties of human nature and intelligence acting in an inchoate and selfish social order.

Unless society is brought to a higher plane of understanding, coöperation, and interdependence, a recurrence of calamities as great as the World War is inevitable. Moreover, it is upon education that the burden of bringing about a saner social structure rests.

An English scientist, H. G. F. Spurrell, in *Modern Man and His Forerunners*, traces the causes of the rise and fall of civilization as shown in the records of archeology and history. He pictures vividly the heights to which civilizations of the past have risen. He shows us Egypt, with its knowledge of astronomy, its mighty civilization, its great engineers. He shows us Babylon, a city in which we would find many modern ideas and conveniences, a city recognizing women's rights, a city with an effective post office system. He shows us something of the Minoan civilization in Crete. Were a woman of ancient Crete, he tells us, to come into our midst to-day, we could scarcely distinguish her from the women with whom we associate. Her kid gloves, her shirt waist

and skirt, her trimmed hat, would have a decidedly modern air. And were we to go back into her home we would find, not the crude dwelling in which our ancestors of a few generations ago lived, but a modern house with an upstairs and a downstairs and with sanitary conveniences, in which any of us might conveniently set up housekeeping. The Queen of England, fifty years ago, did not have the conveniences in her palace that this every-day woman of Crete had in her house. Sanitary science was well known in the days of ancient Crete. Yet that civilization, which lasted perhaps two thousand years, had disappeared before Greek civilization flowered—was, indeed, so completely blotted out that, until recently, few knew it ever existed.

Egypt, Babylon, Greece, Rome, each in its turn developed to a high civilization, each in its turn crumbled into dust. Spurrell, taking stock of our own civilization and noting the same evidences of dissolution that marked the final stages preceding disintegration of previous civilizations, gloomily concludes that our social structure, like all its predecessors, is doomed to destruction. Another return to barbarism, he believes, will be the outcome—barring some great and immediate change for the better.

Spurrell is by no means alone in his conclusions. Another Englishman, W. Trotter, in *Instincts of*

the Herd in Peace and War writes: "There can be no doubt that such a suspicion" (that Western civilization may be about to follow its unnumbered predecessors into decay and dissolution) "is oppressing many thoughtful minds at the present time. It is not likely to be dispelled by the contemplation of history or by the nature of recent events. Indeed, the view can be maintained very plausibly that all civilizations must tend ultimately to break down, that they reach sooner or later a period when their original vigor is worn out, and then collapse through internal disruption or outside pressure. It is even believed by some that Western civilization already shows the evidences of decline which in its predecessors have been the forerunners of destruction. When we remember that our very short period of recorded history includes the dissolution of civilizations so elaborate as those of the Chaldeans, the Assyrians, the Egyptians, and the Incas, that a social structure so complete as that but lately disclosed in Crete could leave no trace in human memory but a faint and dubious whisper of tradition, and that the dawn of history finds civilization already old, we can scarcely resist the conclusion that social life has, more often than one can bear to contemplate, swung laboriously up to a meaningless apogee and then lapsed again into darkness. We know enough

of man to be aware that each of these unnumbered upward movements must have been infinitely painful, must have been at least as fruitful of torture, oppression, and anguish as the ones of which we know the history, and yet each was no more than the swing of a pendulum and a mere fruitless oscillation landing man once more at his starting point, impoverished and broken, with perhaps more often than not no transmissible vestige of his greatness."

To-day for the first time civilization is world wide. It is, however, not essentially different from the civilizations that have preceded it. Except for the knowledge of science and mechanical inventions, there is no indication that it is in itself essentially greater than some of those others of which hardly a trace remains. It is doubtful whether, without the help of those mechanical inventions known to us and not known to the Egyptians, our engineers to-day could reconstruct the pyramids. Our architects are doing no original work superior to the Parthenon. Our sculptors are not excelling Phidias. Our senators and congressmen are assuredly no greater lawmakers than those of Rome.

It is true that we have more efficient machinery than was possessed by any previous civilization. And we have a more intimate knowledge of scien-

tific method than any of our predecessors. But our very knowledge has made it possible for us to kill on a greater scale than ever before. We can kill thousands where our ancestors killed tens. Our civilization, rather than being made more secure, has been made more precarious by our hitherto unequaled power of destruction. Spencer Winston Churchill, British minister of munitions during the World War, has pointed out that, during the last year of hostilities, the efforts of the mobilized scientists of the Allied powers had flowered in a series of discoveries and inventions. They had produced chemical warfare, with its possibilities for war from the air. They had produced high explosives. They had produced means for inoculating great masses of people with disease bacteria—a series of schemes for destruction which in another year would have made all the preceding years of the war mere child's play by contrast. These findings of modern science have not been thrown away but have been treasured in the archives of the Allied powers. No doubt the Central powers too have retained for future use all of the plans for destruction which their scientists discovered. A repetition of such a war would loose upon modern civilization a Frankenstein monster indeed!

In the past, according to Spurrell, the downfall of each civilization has been due either to invasion from the outside or to the rise of the masses within. In the old civilizations such as those that succeeded each other in Mesopotamia, and that of Rome, the invasion was usually by barbarian hordes. Sometimes facilitating invasion, sometimes a sufficient cause in itself, the decay of a civilization from within often caused its downfall. Too great luxury of the ruling classes, growing class consciousness of the masses, have resulted again and again in revolutions. Each time there has been an overturn, a larger class has come into power. And not infrequently this larger class, untrained to rule, has been unable to hold together the structure already built.

Such decay of civilization from within confronts us to-day. From the few, power has passed to the many. The franchise has been gradually extended until every adult votes, women as well as men. In no previous civilization, Spurrell points out, has there arisen within a democracy, in its later stages, any centralizing or unifying force sufficient to give the weakened body politic new power. With the removal of dangers from without, with the rise of individual opportunity and power within, the units of civilization pull apart. Selfish ends replace

service. City competes against city, class against class, interest against interest, individual against individual. There comes the time when to each member of the community, of the nation, of the civilization, his own immediate needs and desires transcend those of his group, of his class, of his nation, of his race. For every leader strong enough effectively to coördinate the efforts of unselfish individuals, there are self-seeking interests to set up counter movements able collectively to overcome and destroy the effectiveness of that leadership. Like an individual suffering from senile decay, the body politic becomes once more merely a number of members, unable to coördinate. Dissolution is the result.

That is the history of every civilization of which we have record which, overcoming outside dangers, has perished from within. That is the danger our civilization is facing to-day. That is the danger which education, through developing people more capable of coöperation, must help us avoid.

Man's Interdependence

It is no longer possible to prevent the masses from gaining control in our civilization to-day as they have done in the past. Even if it could have been prevented, it is doubtful if such prevention would have been desirable. Our hope lies in train-

ing continually greater numbers to use power wisely, when they have it.

Mankind to-day is like a baby. All the means of coördination are present. There is the nervous system, represented by our methods of rapid communication with and without wires; the arterial system, represented by our rapid transportation to all parts of the globe; the interdependent organs, represented by our highly developed division of labor in the various industries.

But like a baby we are uncoördinated. A baby with a sharp knife in its hands sees the flash of the knife as it waves it in the sunlight, then suddenly feels a sharp pain. It howls, but is unaware of the relationship that exists between the twitching of the muscle in its arm and the pain in its leg. In its crying, it is likely to throw its arms about more recklessly and to slash itself again and again.

Our civilization holds such a dagger and has already slashed itself repeatedly. It cries out with the pain but it makes movements which in time will result in new wounds. What France has been doing to the Druses in Syria, what England does in Amritsar, what Japan does in Korea, what our own soldiers do in Nicaragua or Haiti, our failure to give Porto Rican children an adequate education—such deeds affect ourselves. Those movements of various parts of mankind, like oppres-

sion in factories or mines, like imperialistic tyrannies or neglects, are flashing a dangerous dagger over us.

We cannot take the dagger away. We must teach man not to use it for his own destruction. We must make the various nations and individuals of the human race realize how intimately they are related to each other. We must bring home to each individual the fact that in the world's good is his own,—because he depends for his daily existence no longer upon hundreds, nor upon thousands, but upon millions of his fellow beings, people whom he never sees, people of whom he does not even think.

It is interesting to attempt an estimate of the number of people who have contributed to any one item of our complex modern life. Take the paper of this book, for instance. There are those who made the implements with which the trees were felled. There are those who shipped the logs and sulphite. There are those who made the railroad cars. There are those who laid the tracks. There are those who dug the iron and coal in the mines. And so on and on through all who have given shelter and food and clothes to those who have done each part of the work. As society is organized to-day the ramifications of each of our activities are so numerous and so far-

reaching that the imagination can hardly grasp them. All this interdependence means that we can never do our best work or live our lives fully and freely, when any of the lives upon which our own depends are hampered. To-day we are all as truly parts of the great organism of mankind as the cells of the body are parts of us.

There is another side to this: the good of the world lies in the good of each individual. For only as each part is developed to its fullest capacity can the whole attain perfection. To submerge the individual in the social mass, to sacrifice the individual supposedly for the welfare of the whole, is just as short-sighted as to try to develop the individual at the expense of the whole. Each single child must be developed just as fully as possible as an individual—not at the expense of his fellows, but with them and in order that he may contribute his own particular gifts to the common weal.

It is difficult to make this a reality to mature men and women. It sounds too abstract. The lives of most of us are filled with the rush of earning a living and spending the earnings. The banker with his investments and loans, with the complex organization of his bank, has no time for such speculations. And the clerk putting in his full work-day, can see little more than the ledger close to his nose. The busy housewife has each minute of

her day filled with household duties. Each one of us in his own particular job, has his mind filled with too many practical details of just getting along to be able to think very much about his relations to his friends and neighbors and their friends and neighbors and theirs, and theirs, and theirs, out to the limits of the human race.

Furthermore, the minds of most adults are already set. Their habits of thought are already formed. At most we can get a passing intellectual acknowledgment of the general idea that we are all members of one great body.

Grown-up men and women are not available for a new society—there is no way that we can get at them, even if by so doing we could give them a sense of both their social responsibility and their individual importance.

But the children are in our schools.

What the New Education Must Do

Whether we shall be able to make use of the knowledge which we possess to move forward to better conditions of human existence, or whether our civilization will go back to barbarism as civilizations of the past have done, is going to depend largely upon the attitudes, thoughts, and actions of the next few generations.

To find a kind of education which will train suc-

cessive generations, while they are in the process of formation, to cope successfully with the problems that confront them is the stupendous task to which education must be dedicated.

This education will have to be both social and individual. It must develop each child to his own fullest capacity that he may make his own particular contribution to society. It must at the same time train him to see that he can not reach his own full stature unless the society of which he is a part is also developed to its full capacity. He must learn that he is only a part of the whole and that his own good is indissolubly bound up with the good of his fellows. At the same time he must learn the complement of that fact, that since he is an indispensable part of the whole, its progress is in a measure dependent upon his own complete personal development.

Children in our schools are ready to be trained to whatever destiny we choose. The responsibility of discovering the best way of developing them rests heavily on the shoulders of each parent and each teacher.

We adults, brought up under the old régime, are not big enough, not farsighted enough, not wise enough to know how to give them those things which we ourselves lack.

But if we give them the best that we can

glimpse, if we give them more than we ourselves were given, they in turn will be able to give their children more than we gave them.

It is a desperate race between the new education and mankind's tendency to use for his own destruction the power which he possesses.

If we have one or two more world wars, or if we have any world-wide revolution in which the hatreds generated at such times have access to the means of wholesale destruction now at our command, our civilization is as surely doomed as were those of Egypt and Babylonia and Crete and Greece and Rome. But *if* we can train up a new generation before such a cataclysm comes, a generation that will be made up of individuals more fully developed than we, more nearly aware of their dependence upon one another, we may avert the catastrophe. In any event, we may be able to postpone the problem another generation or two so that our children and our children's children will have their chance to attempt its solution.

Schools were in the past, and unfortunately to a large extent are now, mere passers-on of traditional knowledge and skill. They are depositories of some of the results of the world's experiences to which the children go to get their inheritances. They are not primarily places where our children are trained to invest that inheritance wisely.

We must, of course, train children for life as it is to-day. We must make them capable of functioning in our highly artificial, industrial, Western civilization. We must give them their full heritage of knowledge and skill. We must make them conform in certain ways. There are places where we do not want originality and spontaneity—in spelling, for instance, and in addition and subtraction.

But to stop with merely giving children ability to function successfully in the world as it is, is to train them for stagnation. Important as it is for every child to live effectively in the world to-day, it is at least as important for him to be prepared to bring about a better to-morrow.

Here and there, stumblingly, falteringly, schools and communities are moving forward toward this new education. In almost every community there are people who are doing independent thinking. Many parents are hoping that their children will have the opportunities they themselves have missed; that their children will be better, and wiser, men and women than they.

If we can gather together some of these yearnings, if we can see a little of what some schools and some communities have already done to bring about a more far-reaching education, it will help us in each of our communities, in each of our school systems, to do our work of educating the

men and women of to-morrow less clumsily, less blindly than we are now doing it.

Even the most advanced school systems to-day are still so much in the dark educationally, so much in the dark as to how to develop new ways of thinking and new attitudes toward life, that every ray of light is precious. So far, there have been almost no conscious efforts to pave the way for this new social education that have reached beyond merely local application. One outstanding exception, however, is in the work done by Dr. Harold Rugg in combining something of history, geography, economics and civics into a new course in "social science." The twelve full pamphlets, or textbooks, that have been worked out, revised, and re-revised under his direction at Teachers College of Columbia University are now in use in more than three hundred schools in different parts of the country. They do not, as yet, serve to train children for a civilization of the future, but to some extent they clear the ground for such training by giving them a fuller, more accurate conception of the complicated civilization that is already here.

The need for more light is almost terrifyingly urgent. The specter of a world plunged back into barbarism is no mere chimera. It is real. The necessity for finding a way of developing in our chil-

dren and in their children a fundamental and abiding sense of social responsibility, of their dependence upon their fellows and the dependence of their fellows upon them, is one of the gravest necessities of our day.

CHAPTER II

Schools and the Child

THAT children should be brought to an understanding of the interdependence of modern life if our race and civilization is to go on, seems a large order. Fortunately, the other side of the problem is more easily grasped—that the future of the race is dependent on the best development of each child. On that basis, in a measure, our American schools have been progressing from the very beginning—trying to see that each child received his due measure of education, so that he might be a better citizen.

But when we take a country-wide survey of our public schools, it is vastly discouraging, and almost startling, to see how little has as yet been accomplished in the technique of child development. With few exceptions, our educational directors and teachers seem satisfied to steer their children through the mazes of arithmetic, geography and grammar, with little or no regard for the general well-being of the child's mind. There is usually little inquiry as to whether or not the child is

actually developing into a resourceful, well-rounded, independent citizen, capable of enjoying life and liberty and pursuing happiness intelligently.

There is, of course, a great deal of talk about training children to think, about training children to make use of the experience of the past to guide them in facing the problems of the future, about character-education, and so on. But in most of our schools to-day you find perhaps an hour devoted to arithmetic, forty-five minutes devoted to formal language, fifteen minutes for spelling, fifteen minutes for penmanship, thirty minutes for geography, thirty minutes for history, thirty minutes for reading, a little time for recess or physical education, fifteen minutes for some singing, a little drawing, and the day is done.

Look at the child's report card. What is listed on it? Reading, writing, arithmetic, spelling, history, geography, language, deportment. Look at the examinations which are given, or at the standardized tests which are gradually replacing them. What do they deal with? Arithmetic, spelling, language, some of the facts of history and geography. Talk to parents about what they expect the schools to give their children. Wherever you look you find that to most people the teaching of reading, writing, arithmetic, with some of the facts of

history and geography, is still the main job of the school.

Character training? If it's there at all, it's only an incident indicated by some sort of mark after "Deportment" on the report card.

The development of social consciousness? Most children—and most teachers—do not even know what it means.

A discovery of each individual child's latent capacities and an attempt to develop them to their highest degree? No time for that.

The day is jammed with the passing on of traditional knowledge and skills. If that is well done, most parents are satisfied. The other things are "frills."

As long as this attitude prevails, there is little hope that schools will fulfill their destiny. Parents must demand that the schools recognize the importance of developing fully each individual child—of developing him where he *differs* from others. It is only through variation that evolution is possible, and it is essential that we develop the child's originality and initiative and encourage him to differ from his fellows.

Development or Book Learning?

The big barrier that has so far prevented our schools, in the main, from progressing further and

more rapidly in the direction of developing the full potentialities of each individual child, is a failure to grasp the whole underlying idea of development itself, as a necessary part, or the real goal, of education. Mere book-learning, the acquisition of cold information, has from the very beginning been accepted as a satisfactory substitute.

To understand how this can be, it is always necessary to look at the genealogy of our public schools. Starting at the little red schoolhouse, the forerunners of our present elementary schools were content to teach sons and daughters of pioneers the three R's. Other learning was acquired elsewhere—in the woods, in the great outdoors, in tilling the soil, in handicraft of all sorts. Harnessing a horse, building a fence, making a dress, blazing a trail through the woods, gathering berries and cooking meals, building a house and caring for it, all bring about development. Before the advent of labor-saving machinery run by grown-ups, before the days of the great city populations, and apartment houses, and canned goods, it was enough for the little red schoolhouse to teach reading and writing and arithmetic, with a little discipline in the way of self-control thrown in for good measure. From those alien decades our present-day grammar schools have carried down their traditions of learning by rote,

their slowness to accept new ways and methods of securing child-development, their lack of recognition of the necessity of training children to think for themselves.

In the same way, the academies of a by-gone day evolved, little by little, into our present-day secondary schools—high schools and junior high schools. Originally, the academies served only a particular class; those who expected to go into professional work and become teachers, or lawyers, or ministers. As with the pupils of the little red schoolhouse, their real development was secured elsewhere—at home, through work and play, through association with their elders, and conversation, and various activities indoors and out. What they needed from the academies was not so much further development, or even the opportunity for it, as a foundation of factual knowledge that should serve them in good stead in the restricted fields of information they would invade in their later professional studies. Greek and Latin, of course, and a preliminary acquaintance with "the classics." A cargo of scattered facts, designed to serve as a foundation for the "general culture" that could later be secured at the third class of early institutions—the seminaries. Nothing of mental training, to speak of, beyond the acquisition of additional facts that were always re-

stricted to their limited fields. Nothing designed primarily to develop ability or build character, except in the single line of so-called mental discipline—the ability to plod ahead on uncongenial tasks until the supervision necessitating that plodding should cease.

It is little wonder that the introduction of the new idea, that child development is a necessary function of education—an idea that we have all come to accept as almost axiomatic, without at the same time realizing how superficial its actual application in our public schools has been—is still an uphill fight. All school traditions are against it. Theoretically, the idea of child development is readily subscribed to. But practically, the methods and organization of most public schools have as yet no real place for it. Present public school teachers have inherited no desire to incorporate it in the school routine. They have as yet evolved no technique, except in rudimentary ways, of putting it into actual practice.

Even in the seminaries, forerunners of modern colleges and universities, little that was closely related to life itself, or direct training for life, was given. Merely, instead, the acquisition of still more facts of supposed value for professional use in the ministry, in teaching, in the practice of medicine or law. More Greek, more Latin, more

mathematics, and a little more of supposed "general culture" that concerned itself chiefly with where these other things came from—the art of Athens, the ways of Rome, the history of cities and empires long dead. Nothing—unless, perhaps, we except religious training and fervor—to excite interest, to develop purpose, to stimulate ambition or arouse enthusiasm.

Everywhere there was the emphasis on the acquisition of facts—facts and more facts; nowhere any stress on the idea of development, or the need of securing it. Hardly any effort was made to correlate knowledge and life, so that facts could be utilized directly, and translated into actual experience and greater ability. There was no realization of the constantly widening gulf between the classroom and the world outside.

We need hardly be surprised that, from these beginnings, our public schools have been confronted with so many difficulties. America entered on its great experiment in universal education with schools unprepared to give more than a working knowledge of the three R's and a few scattered fragments of information in the way of history and geography and, in the higher institutions, a knowledge of dead languages and of the distant days when they were alive. From the very start all ideas of development, of the acquisition of

valuable habits and attitudes and abilities, have had to fight for existence, like seedlings set out in ground already given over to flourishing weeds.

In order to follow the introduction of the development idea more easily, let us divide it into three parts. Then we can see how far, to-day, each has become rooted—and how much farther each still must go.

We all know these three ways in which every child develops. They can all be subdivided, and they all overlap but, in one terminology or another, we are familiar with the general classification. The first, of course, is physical development. The second we have come to call mental development. The third, dealing with the growth and control of the emotions, we have been accustomed to call moral development. "Spiritual" development is a term that has also been used at times, although it has a slightly different significance. "Character" development is still another designation for much the same thing. Latterly, there has been a tendency on the part of some psychologists to group all these moral-spiritual-character ideas together under the name "social development."

Until about forty years ago, our schools confined their efforts in child development to a single one of these three lines—the field of mental de-

velopment. Moreover, they kept to the exceedingly restricted portion of that field concerned with the acquisition of factual information, largely unrelated, in any direct or immediate way, to life. It was not called, or thought of, as development. It was classified as "education"—and education meant just that: the accumulation and retention of a carefully selected cargo of specific facts: Alexander the Great conquered the world, Albany is the capital of New York State, m-a-n-o-e-u-v-e-r, m-a-n-e-u-v-e-r or m-a-n-o-e-u-v-r-e spells maneuver, and count four for a period or full stop.

Developing the Body

The idea of development first reached the schools in its most obvious form—physical culture. Even that was little more than a generation ago. As cities grew, and the surrounding country receded into suburbs, something had to take the place of tree-climbing and fence-building and cow-chasing. "Calisthenics" flowered almost overnight. Gymnasiums appeared like mushrooms, and athletic teams came in for new attention. It was all, in great degree, the first recognition of this new idea: that schools must play a part in all-around development—that they must do more than foster the acquisition of mere information. Boys and girls need to grow; they need to use their muscles;

they need to develop health and strength; they need to develop good coördination. In so far as the development of these things is not secured in full measure outside the schoolhouse, the school itself, taking charge of every child for a thousand hours or so during each of many important formative years, must play its part in helping to secure that development.

To-day this is the one field in which the need of school assistance in development has become almost universally recognized—and even in this field the great majority of schools have made only a beginning. Country elementary schools, for the most part, still rely on the fact that farm children are apt to be healthy anyway, and confine their efforts in the physical development line to the customary fifteen minutes for recess. With the so-called "union schools," mostly of secondary school grade, there are usually good gymnasiums, with classes ranging all the way from one hour a week (or none at all) to one a day. The exuberance of youth, the desire for exercise and activity and physical expression, frequently leads to better use of the country high school gymnasiums and athletic fields by the stronger and more athletic students, in school games and track meets and athletic competition of all sorts, than the teachers themselves arrange for. It is an interesting

demonstration of how quickly youth itself will seize and make use of the implements of development as soon as they are provided.

In city schools, to be sure, recognition of the need for assisting physical development is greater, since that is where the shoe pinches most. The big metropolitan descendants of our grandfathers' little red schoolhouses are at least beginning to incorporate physical training in real earnest, even with smaller children. Strange that where the need is greatest, with younger children, the recognition is still so slow!

A glimpse of what the schools of to-morrow must accomplish, if each child is to receive a maximum impetus toward the all-around development which will be necessary for a stronger, healthier, more capable race, can already be secured in progressive schools to-day. New schools in many big cities—St. Louis, for example—allow space for fine, airy, well-equipped kindergartens, that foster games, and activity, and physical development from the start. By beginning with these pre-primary tots, it is far easier to keep the idea of physical development prominent through the years that follow. Supervised play, regular use of the gymnasium, and full periods of physical activity each day, during school hours, come along with less artificiality and effort in such cities.

We find another entirely different approach. At Gary, Indiana, the platoon system, whatever defects it may have later developed, began sending boys and girls from classroom to playground to shop, over and over again, twenty years and more ago. It was the idea of William A. Wirt, the Superintendent, that by an alternation of this sort children would more nearly approach conditions of the actual life that exist outside the schoolhouse. Incidentally, it was a measure of economy, since it utilized school rooms on something approaching a factory basis, with different shifts of children using the same room—practically doubling or even trebling the capacity of the schoolhouse. This economy element, as well as other aspects of Wirt's innovations, aroused a storm of protest as well as praise and, from that day to this, platoon schools and the platoon system have been subjects of controversy. But the fact remains that the new system gave an emphasis to bodily activity and physical development previously unapproached in public school systems. The best proof of this is found in the improved platoon school buildings of to-day—buildings that have gone far beyond Wirt's modest beginnings of nearly a quarter of a century ago. Wirt planned extensive playgrounds, of which "wading pools" were one feature. Detroit, utilizing the platoon

idea in up-to-date form, sees to it that each new school has a swimming pool, as well as a gymnasium. To see classes of boys or girls, in these newer grade schools of Detroit, coming down for their swimming hour in the pool is in itself a revelation. The idea of physical development has come into schools with a vengeance when the arithmetic hour is followed by a dive in the school plunge—and the joy of life has come into school with it!

But there is another side to the idea of training children in such a way as to foster physical development. That lies in teaching fundamental truths concerning care of the body, the curative value of sunlight and outdoors, the need of exercise and proper diet, and giving opportunity for incorporating this knowledge into the actual experience of everyday life. An example of this second step can be found in the matter of mouth inspection and dental hygiene. This started at Bridgeport, Connecticut, a dozen years ago, and constituted what at that time amounted to a mild revolution. It has since spread and been improved upon in dozens of cities from New York to California. Already, we can see the beginning of knowledge concerning the degenerative diseases, which often start with bad mouth conditions, more widely taught and demonstrated each year. Just as knowledge of sanitation and contagion has resulted in curbing,

within a few short decades, the further spread of scourges like smallpox, we may expect that another quarter of a century will see the ravages of slow diseases like rheumatism and cancer checked and perhaps halted altogether.

Even in smaller schools, here and there, teachers are to-day attempting to secure correct posture and correct breathing, and giving instruction in proper diet and care of the body. Progressive schools in larger cities have gone still further. At Des Moines, Iowa, special classes for the prevention and cure of fallen arches have secured splendid results. Crooked backs are straightened, hollow chests are filled out, by remedial exercises and habits of correct sitting and standing learned at school. In some California high schools there are wrestling classes as well as instruction in boxing—calculated to stimulate interest in health and strength and physical well-being.

All this is, as yet, only a beginning, for the proportion of these progressive schools is still pitifully small. Thousands of schools, the country over, are still without any gymnasium apparatus whatever. Most playgrounds are still inadequate. The whole idea of supervised play during particular hours—which means stimulation toward healthy physical activity and development—is still in its infancy. Enough has already been done,

however, to indicate how far the schools of the future may go in imparting knowledge concerning better physical development, and inculcating habits that will bring it about.

Developing Coördination

Midway between physical development and mental development, partaking of each, lies the nerve-and-muscle development that we call muscular coördination. Through the years of infancy, of course, the power of coördination develops rapidly. Then it must be fostered. "All work and no play makes Jack a dull boy" because work, in the old classroom sense, gives Jack no opportunity to develop the muscular coördination that underlies good mentality, and without which high intellectual accomplishment is much more difficult and less likely to be achieved.

In the early schools no attention was paid to the development of good coördination. Children got that outside the schoolroom, just as they secured (or failed to secure) good physical development outside the schoolroom. No girl can sew, no boy can make a straight-edge, without developing some degree of good muscular coördination. It was not regarded as falling within the province of the school to care for anything like that. Even to-day, the whole subject of good coördination is hardly

recognized, directly, at all. Either a child is awkward and clumsy, or neat and skillful. That is about all we have so far—a recognition of the difference between the two. But there is little conscious effort to *correct* awkwardness, to treat it as though it were a physical deformity or defective tooth or weakness or disease, and develop in its stead grace and accuracy of movement, and the confidence that goes hand in hand with dexterity.

Indirectly, however, the development of better mind-and-muscle habits has slipped into the scheme of American education almost unobserved. Starting about thirty years ago, a new venture came into certain advanced public schools—shop work. In those days it was called "Sloyd," and consisted largely of wood work and carpentering. Year after year it spread, until to-day it is fair to say that American public schools offering no opportunity whatever for handwork of one sort or another, and the manual development that goes with it, are pretty well out of date. They are not offering children even the education that has already been proved and accepted as beneficial, and necessary.

Shop work, indeed, even more than classroom work, has contributed to the growing realization of what full mental development means. At Indianapolis, at the Cass Technical High School at

Detroit, and in many other places, shop work and trade school training have reached a point almost equivalent to apprenticeship training in the days of the guilds. Whether or not, in such temples to manual arts as these high schools have become, the emphasis on mere trade learning has gone too far, it has made obvious one thing: that mental development and manual development usually go hand in hand. And manual development, at all events in part, falls clearly within the province of the school.

This viewpoint has long been recognized in the kindergarten, and has been given more recent impetus by Montessori. Gradually it has permeated the lower grades in all progressive schools. But in high schools, except vocational and technical ones, the neuro-physical type of development is still largely untouched.

Developing the Mind

The field of mental development, as a whole, has so far proved an even greater stumbling block to American schools than physical development, or even the neuro-physical development of muscular coördination. As yet, so slight a start has been made toward securing full development of the mind, that it can hardly be called a real beginning. With the few exceptions already noted

in the way of muscular coördination, most public schools of the country still confine themselves largely to imparting cargoes of facts inadequately related to life.

The early restrictions, however, that limited these facts to certain prescribed areas—history and geography, Latin, Greek and higher mathematics—have been giving way, bit by bit, for decades. Studies that in the '90's were frowned upon as frills have come to be widely accepted as part of any well-rounded curriculum. The elements of science, for example. Each year sees courses in physics, and botany and biology, accepted by more schools and offered to more students. The introduction of Romance languages as acceptable substitutes for Greek and Latin, under certain restrictions, opened the way, forty years or more ago, to a great invasion of the sacred classic citadel. French, German and Spanish grow on from year to year, while the faithful adherents of Greece and Rome are compelled, season after season, to dig in more grimly. Music, drawing, and appreciative, instead of merely analytical, knowledge of English and English literature—these gaps torn in the restrictive fact-barriers give evidence of a preliminary groping toward mental development, the imparting of wider knowledge and new attitudes. Chemistry has come to replace many of

the intricacies of higher mathematics. Civics, a preliminary survey of government and our whole complicated social structure, has come to weave together the formerly disassociated facts of history and geography. As much as any single subject, perhaps, civics denotes a step from cold and unrelated fact-knowledge toward a working knowledge applicable to life itself. Through inclusion in a child's own personal experience, it often becomes a very real factor in mental development. And in New York, country schools now have classes that inspect voting machines and visit fire engine houses. Exercises at the town hall accomplish results never secured by "Russia in Europe is bounded on the north by the Arctic Ocean, on the east by Russia in Asia and the Caspian Sea."

The actual growth of the idea of mental development, however, is not seen so much in these changes of curriculum, or even in the evidences of increased activity and contact with life, as it is in the words and attitudes of educational leaders. Developing a problem solving attitude in children; developing study habits; developing an appreciation of mathematics, science, history; developing the feeling of mastery; these, and many similar goals mark the lectures and writings of men like Judd, Morrison, Kilpatrick, and Rugg.

One hears their ideas where thousands of school superintendents gather for conventions, or in meetings of state teachers' associations. Little by little the *ideal* of mental development is supplanting that of fact cramming and is mitigating the older practice in the classroom.

Developing Character

The third great field of development, that of character and the stimulation, direction, and control of interest and the emotions is as yet practically untouched. The old idea of discipline, brought forward from year to year as a necessary means of securing economical school administration and appearing on report cards as "deportment," is about the only contribution our public schools have so far made to the most vital development of all. Here the school touches most intimately, and must eventually touch far more intimately, the future of each child—and, through each child, that of the race itself. Whatever mankind has achieved so far in the way of progress, the one thing that clearly separates human beings from the rest of the animal kingdom is conscious control of the emotions, and their guidance toward more far-reaching ends. That our schools have so far failed to make any particular contribution to the emotional control of the race through more

intelligent character building, is almost unthinkable. At present, moreover, the tide is at peculiarly low ebb. Even the religious training and exercises of the older generations probably had more that was valuable, more training in control, more emphasis on altruism and unselfishness and the good of the group and community and nation, as against that of the individual, than anything we have to-day.

One of the great stumbling blocks of the present, in this matter of developing control of the emotions, training the social sense, and overcoming the old greeds and selfishnesses and lazinesses and cruelties and unfairnesses that still persist in all of us to-day, is the lack of adequate teachers. Of more than 450,000 public school teachers in this country to-day, less than one-third are college graduates, and hardly more than half have ever had more than a single year of normal school training. Something like 100,000 have never even gone beyond the eighth grade themselves. It is hardly to be expected that teachers themselves so ill-equipped for their profession, should accomplish much in the way of mental development for their charges, let alone the infinitely more complicated and difficult social development that includes both character and, ultimately, something of philosophy, as well as civic consciousness.

But that is not all. The overwhelming majority of the schools where our teachers have received their education are anything but progressive. In large measure, the normal schools that educate teachers are state institutions, often in charge of political appointees, and on the whole so conservative as to be almost reactionary. They are often opposed to the mildest progressive tendencies because they are themselves so far behind the currents of scientific advance. There are exceptions, to be sure, such as the Colorado State Teachers College at Greeley, and the San Francisco State Teachers College that carried along for years under the fiery guidance of Frederic Burk. But these progressive normal schools are few and far between, and in many cases the old order of ultra-conservative teacher-training continues dragging along ten or twenty years behind the procession. Yet normal schools are at the very point in the educational circle where a progressive outlook is most needed, and could accomplish most good.

We can look forward to little assistance in social development from teachers coming from backward institutions. They are not equipped to bring to the training of children the insight and patience and scientific understanding that will help little Margaret overcome her shyness, teach Donald to prefer truth to lying, and help William

toward the unselfishness and confidence that make for success.

Looking across the whole country, we find only the beginnings of any real social development work in public schools. Individual teachers scattered here and there are doing what they can. J. O. Engleman, for a time Superintendent of schools at Terre Haute, Indiana, has written a book on Character Education, and the University of Iowa has put out, under Horn and Starbuck, the "Iowa Plan" of character training. Bobbitt and Charters at the University of Chicago have set up character-building objectives; Hartshorn and May at Columbia University; Pressey, Downey, and others have set out to measure phases of character development. But although all these efforts are having some influence, there is nowhere, as yet, a single entire school system training children in patience, in confidence, in appreciation, in helpfulness, and all the other qualities that go to make up character. Where the individual principal has the vision of what a school might do in developing the emotional control that makes for these qualities, he cannot get the teachers he needs to carry his ideas into successful practice. Where a single teacher has the vision, the most she can usually do is to impart to the children in her particular class or room something of the

qualities she herself possesses. Too often her very success along these lines is lightly regarded, or even definitely disapproved of, because of its divergence from more conventional methods and results.

As yet, also, the psychology laboratories and research departments of the universities have been unable to clarify and pass on enough knowledge of character and emotional control to make it readily available. The whole technique of social development, of stimulating ambition and guiding young, mobile intelligences into wise emotional control, is still in its cradle.

Interest, energy, enthusiasm, sacrifice, the refusal to be discouraged—these are among the greatest forces within reach of an intelligent human race. To develop them so that the coming generation may have a vision and power and mutual helpfulness greater than our own is one of the great tasks laid upon to-morrow's schools. Certain of the progressive schools to-day—schools that are carrying the burden of some new idea where the high enthusiasm of a great cause makes itself felt in a good proportion of individual teachers—are as yet our only indication of what may eventually be accomplished along these lines.

CHAPTER III

How Better Schools Start

In both the preceding chapters we have been for the most part looking into the future, seeing what the schools of to-morrow must do in the way of imparting social consciousness and developing each individual child, in order that our natural and racial course may continue upward rather than drop downward. So little has as yet been accomplished, even by the more progressive schools, along these lines that a survey yields hardly more than suggestions of the schools and methods and development-technique and social vision of to-morrow.

But we take a step nearer to the leading schools of our own time, that connect our present-day education with the better education that is to follow, when we approach the reasons that have brought these present progressive schools into existence. In these reasons we find the links that connect the commonplace school of the present with the progressive leaders.

They are twofold. The progress of our complicated social structure beyond its simpler stages of

a century ago has brought about the situation with which we are all familiar, demanding that out-of-date school methods be superseded by something better. This demand for better schools is felt throughout the country, but with greatest force in the most independent, forward-looking sections, such as parts of the Middle West, and the Pacific Coast. In the more conservative centers, like parts of New York and Pennsylvania, it is less acute, in so far as it expresses itself in the general public consciousness. Also in states and communities that are economically and financially backward, such as some of the inner states in the southern tier and outlying country districts scattered over the entire nation, the demand for better schools is not acute. On the whole, however, the underlying need and desire for better schools is general throughout the country.

Into this situation of need and inarticulate desire for better schools comes some direct stimulus that brings them into existence. Usually the stimulus is provided by one individual, or group of individuals, with energy and initiative enough to act.

Every community has such individuals, and many communities have such groups. When the need for better schools or school conditions—or even the need for the improvement of some detail of school management or method—reaches

one of the energetic people of the community, the spark is struck. Immediately better school conditions in that particular community or district are on their way. It makes little difference whether the person having the necessary energy is inside or outside the academic field. It may be some individual teacher, or member of a school board, or merely some particularly well-posted and independent parent.

The whole story of progressive schools in the United States is interlaced with this fact: that since the need for improvement has become acute, improvement has resulted when energetic, well-informed men or women have taken action, alone or in groups, on large matters or small.

Here is an illustration:

At Dayton, Ohio, hardly more than a third as many public school teachers have left their positions during the last few years as in many other cities. Instead of an average turn-over, say, of twelve to fifteen teachers out of every hundred, who drop out each Spring and have to be replaced in the Fall with others unfamiliar with local conditions, in Dayton there are only four or five. Although the Dayton public schools are not outstanding in other respects, they are well above average—and this matter of satisfied teachers, and a correspondingly small turn-over in the teaching force, makes them appreciably better. The im-

provement is definite, of some six years' standing. Before that time the Dayton turn-over was as large as in other cities that Dayton has since outclassed.

The change was brought about by the School Superintendent's secretary, who found that new teachers coming to the city were very likely to ask her where they might find room and board at reasonable rates. There was at that time no file of such places to refer to, although from month to month a certain number of people, anxious to secure tenants or boarders, would write in, setting forth their accommodations and terms. Out of a purely personal kindliness and desire to see new teachers comfortably situated, the Superintendent's secretary organized a sort of one-desk information bureau, or welfare office. Each fall she directed new teachers, or old ones desiring new lodgings, to quarters where in her estimation—and her analyses of character and temperament were shrewd—they would be congenially located. The small turn-over of Dayton teachers, and the resulting general betterment of the city's schools, is directly traceable, in part at least, to the personal efforts of that one stenographer in the Superintendent's office.

There have been two other factors contributing to the betterment of the schools. One is the fact that Dayton residents make a point of maintaining

cordial relations with the teachers. The other is interest promoted by the Moraine Park school experiment and the "Coöperative Plan" of education tried out at the University of Cincinnati, at Antioch College near by, and in high schools all over the district. These factors, combined with the improved living conditions among the teachers, have had a great deal to do with bringing the city schools to the point they have now reached, ready to blossom out into something even more worth while.

It was largely a one-man stimulus that started the Winnetka, Illinois, school system on the experiments that included the Individual Technique. That was nearly fifteen years ago. The town was up to date, intelligent, and reasonably prosperous. A group of Winnetka parents met to talk over the advisability of inviting a well-known educator to come there and start a private school that would fit their children for Eastern colleges. One man objected. He said, "Instead of starting a private school here, why not make the public schools good enough for our own children to go to? That's more American." The point was so well taken that the movement for a private school came to nothing. The remark was locally quoted. Because of his stand, the man who made it was suggested for the school board, nominated, and elected. He

became president of it. In time he brought in others, who in turn started out to find a superintendent able to give them progressive schools. After writing back and forth across the country, they got in touch with Frederic Burk at San Francisco, and took his recommendation, so that the spirit of Burk's progressive ideas came direct to the town.

A normal school instructor, Mrs. Marie Turner Harvey, became dissatisfied with prevalent normal school methods and their results, as exemplified in the little one-room country schools to which the normal school pupils went after graduation. To prove what could be done with rural schools, she took a $500-a-year salary and started over again as a country teacher at the little town of Porter, Missouri. That was a dozen years ago. To-day her little country school building is comfortable and attractive, with pictures on the walls and many shelves of books. In that rural school country children get training that puts them ahead of most large-school graduates of the nearest cities. The whole countryside around Porter has been touched by the spirit of progress that springs from the small schoolhouse with its single teacher. The influence of the improvement, spreading beyond the immediate neighborhood, has gone on and on. Articles concerning the Porter School and the re-

sults that have been secured there have appeared in educational journals and national magazines. Mrs. Harvey, with independence enough to follow her own convictions, has made her $500-a-year-school a milestone of educational betterment.

Even in cities and states where the binding grip of tradition and routine and conservatism makes progress seemingly impossible, an attitude of independent energy, whether expressed by a single individual or by a whole community, yields surprising results.

"I know that conditions are bad," a teacher or principal—or perhaps a discouraged parent in some too-conservative community—will admit wearily, "but what can *I* do about it? Everything is cut and dried; our children have to take examinations put out by the State Board of Education, and all our rules and methods of procedure are handed down to us from the State Capital. It is all cast-iron. To attempt anything out of the ordinary, to make an effort to improve local conditions, modify the rules that are given us, merely makes trouble."

Such conditions prevail to greater or less degree in every state with a strongly centralized educational system, built—as every strongly centralized educational system is—on the traditions of yesterday. New York State, with its Board of Regents

and prescribed courses of study, its examination papers made out and insisted upon for musician and mechanic, moron and genius alike, presents conditions as discouraging as any. But even in New York State the combination of energy, and information, and initiative, has often resulted in improved conditions. Perhaps no city in the country has a public school system superior to that of Rochester, where the deadening methods of prescribed procedure and dreaded Regents' Examinations have calmly been—at least to a comforting degree—brushed aside as of small consequence. At New Rochelle, a school system distinctly superior to most of those in the surrounding region has been successfully inaugurated. At Scarsdale, the Dalton Plan has been given a trial. At another New York suburb, Bronxville, a still more important improvement is under way, with Willard Beatty, a Burk man, formerly Assistant Superintendent at Winnetka, in charge. The Bronxville experiment includes personnel work of a high order, with resident and visiting experts in child psychology to pass upon and diagnose children who present unusual or difficult problems. It includes an experimental course in teaching reading by means of motion pictures—and many other things neither contemplated nor provided for by the State Board of Regents. The hampering restric-

tions have simply been tucked away—or, if you prefer, liberally and intelligently interpreted—and no longer impede progress.

Arthur E. Morgan, President of Antioch College, where the Cincinnati plan of coöperative education has been applied in the field of liberal arts, with outside work and classroom studies alternating in successive five week periods, gives a striking example of one-man advance. As a civil engineer and promoter he put through vast irrigation projects, reclaiming millions of acres of desert land. But he finally decided that the reclamation of land meant little unless the human beings that occupied it were able to enjoy it and truly benefit by it. There was the real reclamation project—to bring cultivation to the waste areas of the human mind! He decided to start a school of his own in the Berkshires, and try out some of his ideas of developing leadership. But in the meanwhile his influence launched the Moraine Park project, that has since attained national prominence.

A little later, because of his interest in schools, he was elected trustee of Antioch College, the little Ohio college originally founded by Horace Mann, one of the first American institutions of collegiate rank to try out coeducation. Securing the approval of his fellow trustees, he was made President of the college, with free rein to go ahead with

new ideas. To-day students for Antioch are hand-picked for leadership. Their scholarship, their character, their inheritance, their aims, are all gone into, searchingly, in an effort to select for the Antioch training only the best.

"Most of our colleges," says President Morgan, "are doing away with American intelligence as no other agency is." He points to the fact that the birth rate from college-bred parents is so low that university graduates are to all intents and purposes members of one great self-elimination society. "Our colleges," he states, "train their students in certain cultural standards—they give a taste for almost luxurious standards of living without giving them the economic equipment to maintain such standards and at the same time have large families. They are not given an education that enables them to survive and succeed without too great effort. At Antioch we are trying to fit students for life to-day, so that they may rise, and live comfortably and have children as they should, without undue hardship." Whether or not one agrees with all of Morgan's educational theories, there is no question as to the healthy and stimulating effect he is having on American educational thought.

Behind the Morgan story lies another, also illustrating the fact that, with the demand for better

educational methods already acute, one man with energy enough to take action can start a whole progressive movement. At Cincinnati, Herman Schneider, now Dean of the College of Engineering and Economics, worked out single-handed the first "coöperative plan." Already he had been a successful architect, lecturing a part of the time at Lehigh University. After coming to Cincinnati and devoting himself exclusively to teaching, he tried to get the university authorities to take up his plan of alternating study and work periods—two weeks on the campus, and then two weeks outside, at a regular job. It was thrown out as too radical—against all current tradition—and Schneider might easily have become discouraged and given up all thought of putting his plan over. But he didn't, and half a dozen years after he had first suggested it, he was given a chance to try it out. That was in 1906—and the story since then has been one of continuing success and continually widening influence. It was an application of this "coöperative plan" to a college of liberal arts that Arthur Morgan has attempted and accomplished at Antioch.

That so many of the leaders in American educational advance have not been school teachers all their lives is interesting. It is as though the terrific need for new and improved education with which

to meet a civilization changing with dangerous rapidity were making itself felt more keenly outside, rather than inside, the academic field. From outside, it first communicates itself to those inside through the individuals who are, as it were, on the border line—who, besides being teachers, have an "outside" viewpoint as well. Dean Schneider of Cincinnati was an architect and engineer; President Morgan of Antioch was an engineer and promoter; F. W. Studebaker of Des Moines laid bricks; J. P. O'Hern, one of the leaders in the junior high school development, was a telegraph operator; and so on and on. In other instances, like that of H. S. Weet, Superintendent of Schools at Rochester, New York, we have men who married early and went to college late, getting a viewpoint different from that of the average teacher.

At St. Louis, Dr. C. G. Rathmann, a teacher who later became Assistant Superintendent, started an innovation that has attracted a good deal of attention, although its educational import is only indirect. His contribution is a traveling museum. It's motto may be said to be "Bring the world to the child." The museum first grew out of left-over exhibits acquired by the St. Louis schools, at Dr. Rathmann's suggestion, after the World's Fair in 1904. But it has since grown to astonishing

proportions. In it you can find hundreds of stuffed birds and animals—pheasants, kingfishers, partridges, weasels, bob-cats, foxes, and all the rest—ready to be packed off at a moment's notice in a museum truck to any one of the city schools. Exhibits of grain, in the sheaf, in the ear, the kernel, the meal; raw rubber, and rubber in the various stages of manufacture; pampas grass; cocoanuts, with cross-sections showing the original husk, copra, and so on; butterflies; beetles; coins; jewels; phonograph records; maps; thousands and thousands of pictures—all ready to be sent out to any teacher who wants to stimulate interest in geography, or history, or natural science, or whatever it may be. Physical directors use the museum; their classes swing to the "daily dozen" on a museum phonograph. The music departments use many phonograph records also, giving the children a knowledge of this or that classical selection, or testing their ability with scientific examination-records.

Twelve thousand records are sent out to the various St. Louis schools from the museum in a single year, as well as many lantern slides. There are more than three hundred reels of motion pictures. There are thirty thousand stereoscopic photos, with descriptive story material on the back of each. There are some nine hundred charts and

colored pictures. There are countless descriptive railroad pamphlets, for use when geography classes are studying particular localities. There are pearls on oyster shells, and beavers cutting down trees, and industrial exhibits showing how shoes are made. All are available for any class in the city, at any time, provided some other class is not already using them.

Practically everything in the museum has been donated. Nearly all the material has been acquired for the asking. "Things that people don't want any longer are often the very things that are useful for a school museum like this," Dr. Rathmann used to explain. "Sea shells—odd ornaments from different parts of the world—thousands of things that are no longer of value to their owners are interesting to children, and useful educationally as well, when they are classified and taken up in the right connection." He would write to this Chamber of Commerce or that, this manufacturing concern or the other, to secure gladly given data and pictures concerning a place or a product. Children of a country school could easily start a museum of their own with just the shells and birds' eggs and old coins and odds and ends that could be had easily, right in their own village, not to mention the pictures and maps and descriptive folders that the advertising department

of nearly any railroad is glad to send out on request.

According to St. Louis teachers who have used the school museum, it adds a lot of interest to class work. China becomes twice as interesting when a tiny Chinese idol or game or lacquer work can be looked at or handled in connection with the lesson.

Even more striking than the fact that most of the progressive movements in American education have come from the initiative of single individuals or small groups, is a second generalization that can be made after a careful survey of the more advanced schools. This is that a great number of the improvements have been made without any great added expense. Individual instruction, as it is gradually developing a method and technique of its own, saves, by eliminating time and money formerly lost in the worse-than-useless repetition of grades, more than it costs in increased salaries. Even at that, the per-child-per-year cost is only slightly more than under the old system. A. H. Sutherland's figures at Los Angeles showed the cost to be practically the same as the old system. At Detroit, where the elementary schools are far above the average of other cities, the cost per pupil is little more than that elsewhere, and what little increase there is has in

large measure been caused by the extensive building program still being carried out. Individual instruction work in Detroit is being done without additional expenditure, although more than 60,000 children are being taught, in part at least, under the new method.

It is true that for high school education the Detroit cost has run much higher. But it is in the high school department that Detroit has, according to some, failed to support her otherwise fine record; her high schools have come in for a good deal of criticism in the matter of over-emphasizing trade training.

At Gary, the platoon system was first worked out as a definite economy. The school buildings weren't adequate; some way had to be found of making the money go farther—and an educational advance was the result. Although the State of Indiana spends less per pupil than the adjoining states of Michigan and Illinois, Gary is far down the list of Indiana cities in cost of education per pupil.

"Platoon schools" do not cost more—rightly planned they cost less than the older schools. And even before the new type of building can be put up, the idea can be adopted not only without added expenditure, but with actual saving.

Project work, with its group activities and un-

consciously acquired education does not need to be more expensive than the old class-room hours and recitations.

At Rochester, the cost per pupil in the fine Junior High Schools is a little higher than under the old eight-grades and four-year-high-school method, but the increase is obviously due to other considerations, and not to any inherent condition of the new system.

The coöperative system of alternating work and study, with students working first on the campus and then at a job, lowers the cost of education instead of raising it, both to the student and to the school. This is because half of the time they are giving up to learning is being spent on work that is economically profitable.

Additional expense for better schools is apt to follow improvement, rather than precede it. A school, like a factory, when it is doing poor work, has trouble in getting more money. But let an improvement take place—a more capable superintendent or principal at the school, or a keener manager at the factory—and the condition changes. People begin to pay attention to what is being done, and desire still further extensions or improvements. Seeing the bettered conditions and greater returns, they become willing to advance more money. It is no harder for an improved

school system to get additional funds than for an improved manufacturing plant to get additional capital for further investment. So, in places where schools are already good, we are apt to find higher cost of education.

There is need for better salaries for teachers. That need is general: the standards of the whole teaching profession must be raised. Obviously we must get away from the general low average of teaching ability the country over. That means better pay, to attract more capable men and women to the teaching profession. They must have more money to repay them for additional training to meet higher requirements. They must enjoy more prestige in the community; that too means bigger salaries. This is realized, usually, in every public school system that has good schools. But good schools, affording evidences of what they can accomplish and of their value to the community, ordinarily have to come first. Pride in them follows.

It is even, unfortunately, often true that where the added expense comes first, good schools do not necessarily follow. A city voting more money, in order to get better schools, may or may not get them. The very freedom to spend more sometimes leads to school board graft and to such extravagances as the ornate, moving-picture type of high

school that can be found on the Iron Range in Minnesota, rather than to really better methods, and better teachers. Money alone can never turn the trick. It depends on the knowledge of better methods, and demand for them, on the part of parents and school officials.

Most school principals or superintendents, believing themselves interested in school betterment but content to go along with things pretty much the way they are, even though their systems are not keeping up with the progressive leaders, fall back on the two arguments—rules and money.

Here is a typical case—the principal of a good old-type grade school in the prosperous residential suburb of a big Eastern city. She is genuinely interested in the children, and in her school. She is a high school, college, and university graduate. She believes the school is good now; she would like to see it still better. One of the parents in her district asked her this question: "Why can't you bring in some of the obvious improvements that are being worked out at other places—the Individual Technique say, or project work?"

"Well," she said, "in the first place I haven't the money. My appropriation is just enough to keep us running along the way we are now; I can't afford to experiment. And second, there are the rules. I'm not a free agent. We have a system

that's been working successfully for years. It extends all over the state. I can't change it all by myself."

Her teachers feel the same way, and use the same arguments. The same thing is true of her superintendent.

But wherever real school reform is going on, wherever new ground is being broken for educational advance, these two reasons are simply pushed aside.

Rules? Rules are made for the support of the weak. They are, as they have always been, bulwarks—not barriers. Any city, any superintendent, any principal, any teacher, can go ahead and make school improvements. But the initiative must be there—the willingness to get new information and ideas, and the intelligence, the personality, the daring, to act upon it.

Information and initiative get better schools. Once arouse a real desire for better conditions, and those two things will do it. New rules, or new ways of applying or interpreting the old rules, will follow. More money, if it is actually needed, will follow, too.

These things are proved by the whole story of progressive public school education.

CHAPTER IV

Schools and Politics

One of the first problems, wherever the desire for better public schools begins to find expression in more than an extremely limited way, is usually a political one. In any democracy, improvement of conditions that affect the welfare of all comes through the consent of all, or at least of a majority. When, as is the case in many American communities to-day, the form of democracy is retained, without a universal personal sense of individual responsibility and willingness to go into questions of state or community welfare before forming definite opinions on them, a complicated political situation arises. The "Let George do it" attitude allows the machinery of government, in small communities as well as large ones, to fall into the hands of politicians, amateur or professional, who are in the game for what they can get out of it. In a situation of this kind, selfish or petty-minded politicians stand between the desires of the leadership element in the community for better schools, and the accomplishment of those desires. Until this condition is overcome, progress

toward better education is hampered, if not checked entirely.

Changing the General Political Situation

There are two ways in which, in those cities and communities that have succeeded in securing better school conditions, this problem has been solved. The first, and by far the most difficult method, has been to take up the entire political situation of the community in which the particular school district is a unit, and put in a reform administration. School reform, in greater or less degree, usually follows the election of reform candidates—particularly if school issues have already been brought into the political campaign. An instance of this is to be found in the public school situation of Chicago, where the appointment of William McAndrew as Superintendent of Schools followed the ousting of Mayor William Hale Thompson.

Unfortunately, Chicago furnishes also an example of the reverse side of this solution of the school political problem, for with Mayor Thompson's reëlection, four years later, the reform administration, in education as in all other departments of the city government, came to an end. Thompson, indeed, took up the school situation as one of the issues of his campaign for reëlection,

making his appeal to those numerous voters who had not even the first idea of what it was all about. His chief argument was the vociferous statement, often repeated, that McAndrew (because he stood among many other things for teaching American and English history from an impartial instead of a partisan viewpoint) was "a tool of the King of England!"

Unless, following an improved political situation, definite steps are immediately taken to reform the entire machinery of school administration in such a way that it will be in great measure unaffected by subsequent general political changes, the entire gain is likely to be lost.

Taking the Schools Out of Politics

The second, and by far the more successful, method of clearing the ground politically for better schools, is to separate the whole question of schools from the general political situation. In other words, it is to "take the schools out of politics." This can usually be accomplished wherever well-informed, intelligent sentiment is aroused to bring it about. Progressive school administrators, or parents wishing improved educational conditions for their own children, find they have all the best of the argument. The right is on their side. Common sense and community opinion al-

most invariably agree that schools and school administration should not be made a football of politics, or left open for graft.

The best procedure under this method is, usually, first to advocate the election to the school board of strong, well-known candidates, backed by the indorsement of leading citizens or civic bodies and without political affiliations of any sort, on a strictly non-partisan basis. "We want better schools" is an argument no political party or candidate can answer—so long as the election, as in the case of a member of a school board, concerns only schools.

Other steps include "staggering," whenever necessary, the school board elections—so that no one election can turn out a good school board or a working majority of it, and put inadequate successors in. Then, to safeguard the election of school administrators still further, it is usually possible to surround the nominations with regulations that rule out purely political considerations, or reduce them to a minimum. The reduction of a school board to not more than seven or nine members is usually advisable. Seven seems to be better than nine, and when the elections are adequately safeguarded, five is better than seven.

To "keep the board out of politics" the following arrangement has been adopted in Detroit,

and found to work successfully: At a primary election, prominent non-partisan candidates are put up and voted upon. They must secure a minimum of six thousand votes to get a place on the final ballot. The candidates receiving the six highest votes at the primaries (provided each has received six thousand votes) go on the election ticket. Of these six, three are elected. By the double system, of endorsement of a large number of non-partisan candidates at the primary, and the election of only half of those who received the highest primary votes, it has been found that even the smartest of local politicians is hard put to it to bring any influence to bear on the school situation.

Fighting the Devil with Fire—and Facts

Perhaps as good a way as any to illustrate the political aspects of the school problem in a large American city will be to give in some detail the story of the fight for better schools that has been made, with excellent results, at Denver, Colorado. All the world loves a good knock-down-and-drag-out fight. And if it has a happy ending, with the hero winning in the final round and the big bully draped across the ropes—so much the better.

Denver has often been brought into the limelight by local politics. From coast to coast it is thought of as a political city—a city where, amid

seething political currents, the forces of good government have been put to it, time and again, to keep even a respectable balance—while time and again the politicians have won out and had pretty free rein.

Denver has to-day what is in many ways one of the most progressive school systems in the United States. Not *superficially* fine, with expensive buildings and graft and poor teaching, but fundamentally sound, at once economical and advanced, insuring Denver a finer crowd of boys and girls, of future citizens "coming up," than most cities.

Ordinarily those two things do not go together —politics and good schools. But Denver has both.

For many years Denver school history was uneventful. Seventies—Eighties—Nineties—one fairly good representative school board after another. Nothing unusual. With intelligent, representative citizens on the board, the schools were pretty good, and there were few complaints. The school board election was held at a date different from that of the municipal election, in order to keep it, as far as possible, out of politics.

But in spite of that precaution, politics crept in. That is the way in every democracy, unless the individual citizens are everlastingly on the job.

About 1894 Denver definitely began to "go

bad" educationally. Not that there was necessarily any actual corruption. Unfortunately, you can have a poorly run, disorganized, out-of-date and expensive school system without a sign of actual graft. It is only necessary to let the school board become, as it became in Denver thirty-five years ago, a political shuttlecock.

For more than fifteen years, until after 1910, local political issues swept the Denver school elections along in currents that were often unsavory. School board members came and went on a basis of their popularity, or political influence, rather than on their particular qualifications for the work, or their sense of responsibility to parents and taxpayers. The main job of the superintendent of schools was "not to rock the boat." You find plenty of big American cities like that to-day. Favoritism crept into the appointment of principals and department heads. If a teacher became critical and protested against incompetence, or the use of obsolete methods that did more harm than good, or inadequate buildings, or the waste of public money—why, in a little while there was usually one more teacher out of a job. If a parent became indignant and made a fuss, he was listened to with bland politeness, and passed along to some other office, where the responsibility was shifted again,

until he found himself gritting his teeth with rage —and helplessness.

Does it sound familiar? Only the other day, in an Eastern city once famous for its good schools, a teacher explained to a visiting cousin, with tears in her eyes, that negro parents had protested to their local political boss against having their children taught by the negro teachers provided to take care of the sweeping colored increase, and in consequence had been given white teachers, while the negro teachers already under contract were transferred to teach white children.

Denver was like that from about 1894 until after 1910. Two school board members were elected on the wave of religious prejudice that swept parts of the country under the name of the American Protective Association. Their main qualification was prejudice against anything Catholic or Jewish or foreign. Denver schools were outgrown. The overcrowded buildings fell into varying stages of disrepair.

Then along came a girl who was interested in school affairs. Her name was Elsa Denison. She was a member of the New York Bureau of Municipal Research, one of the many organizations interested in better schools. To her eyes the Denver schools seemed inadequate and sadly behind

the times—as they were, just as are the schools of most American cities to-day.

So far, Denver's school story might be that of most American communities. But the rest is different.

Elsa Denison was no longer, at the time, a resident of Denver, although she had been brought up there. She was merely visiting her sister. But her brother-in-law, Henry Swan, did live in Denver. He was interested in one of the Denver banks. He had children coming along who in due course would probably be entering the Denver schools. When his sister-in-law gave him her opinion of the city schools he decided to see what could be done about it.

There is the first point of divergence from the story of cities that to-day are still getting along with out-of-date, expensive, and inadequate schools. One man, energetic and capable, started to do something about it.

Obviously, there was no use in merely going to the existing school board with a complaint. That had been done often enough, without result. Henry Swan decided to have a constructive suggestion and, if necessary, bring influence to bear to have it acted upon. Why not have the Denver schools appraised by some competent, impartial, outside experts, such as this New York Bureau

of Municipal Research his sister-in-law talked about, and see just where the schools of the city did stand, in the light of advanced educational knowledge, in comparison with others?

There was no valid argument against that. No sound business objects to calling in a certified accountant once in so often to go over the books and let the stockholders know how their money is being spent, and what they are getting for it. Parents, tax-payers, school-board members themselves, are better off if they know what results are being obtained with the dollars spent for public education.

But before Henry Swan put that up to the school board responsible for unsatisfactory conditions, he went around to a number of Denver's most influential property-holders. It was easy enough to convince them that a public school accounting could do no harm, and should easily be worth the relatively small amount it would cost. So when the idea came to the school board, it had the backing of a lot of people nobody cared to offend.

The school board accepted the suggestion gracefully. If necessary, they probably felt, they could table the results, and in a little while it would all be forgotten.

The survey was made. As Swan had suggested,

the New York Bureau of Municipal Research made it. The report showed that Denver school conditions were pretty bad. But the school board smilingly expressed itself as satisfied, and politely refused to do anything further in the matter.

Right there the real fight started. Henry Swan and others who were interested vs. Denver Do-nothings. Denver presented the spectacle of one man determined to start a movement for better schools, with the political masters of the situation lined up against him.

Helpless? you would think so. That was Swan's idea, too—but with a different slant.

"Why," he says, in telling about it, "that opposition was nothing to worry about—or the rest, either. They never had a chance! You see, the politicians were up against *facts*. All we had to do was get people posted. That survey gave us our ammunition."

But there was a good deal more to it than that. From the start it took energy, inventiveness, and courage. Swan kept himself in the background. He went again to the influential property-owners, one after another.

"Here's the report on our schools," he told them. "Look it over. It's a disgrace. We're paying for good schools, and we're not getting them. The

board members refuse to do anything about it. They're incompetent."

He got his friends and acquaintances to form an organization called the Colorado Taxpayers' Protective Association. It was run by an executive committee, with Swan as chairman. One hundred of the most influential members, prominent citizens as well as substantial property-holders, agreed to pay into the treasury of the organization $250 apiece per year for three years. That gave $75,000 to work with.

Then, still before the old school board members and the politicians behind them were aware of a real enemy, the Colorado Taxpayers' Protective Association "slipped one over." They had a bill quietly introduced into the Colorado state legislature, enlarging the school boards of cities over 100,000 from five to seven. It was unostentatiously passed without any particular interest or opposition. Denver was the only city the law applied to.

When the next school board election came along, the politicians woke up with a jolt. There were two vacancies on the board caused by the expiration of regular terms, and two more to be filled in accordance with the new law enlarging the board from five to seven. Together, four board

members had to be elected, *carrying control of the entire board.*

That election stirred the whole city as no school matter ever had before. The politicians, supporting two old-line board members on the cry that school innovations would mean more money and greater tax burdens, went in hammer and tongs. All the political machinery that had kept the board "safe" for twenty years was set in motion. Without an unprecedented popular response to the representations of the Colorado Taxpayers' Association, the election would have gone the way of those that preceded it.

But Swan had the counter-campaign well organized. The Executive Committee of his Association had recommended—and the general membership had endorsed—able, well-known, non-partisan men as school board nominees.

"That gave us one advantage, right there," Swan explains; "our candidates were better known and more highly thought of than those of our opponents. Nobody could question, seriously, their fitness or fairness."

A list of voters was secured, and a digest of the city school situation, with arguments for better schools that would give greater value for each dollar expended, was mailed to each registered elector. Such organizations as the Parent-Teacher

Association were drafted for a word-of-mouth campaign. Swan and other better-schools speakers turned out for rally after rally, speaking in churches, at clubs, at specially organized meetings, four or five times in a single evening. And the same capable energy that had started the ball rolling in the first place saw to it that the speakers were good talkers who could get votes. If ever a city school reform was started and directed by a single unostentatious head, Denver's seems to have been the one.

"We had the facts on our side," Swan says. "Any better schools movement always does, if it's any good. But we had to get the votes. Facts alone won't necessarily do it. You have to dramatize the facts. You have to paint a picture. We raked over that school report and dug up the worst spots in the whole city—buildings that were fire-traps, or unsanitary; overflow classes that were held in basements. More ammunition. After a meeting a mother would come around, horrified. 'Do you mean to say my Susie has to go to school in a place like that?' she'd ask. Of course we always posted ourselves on conditions in the district where we were speaking so we'd be all ready. 'No,' I'd tell her, 'your Susie doesn't happen to be in one of the unsanitary buildings—but you go around and see the way the light comes to her desk! There isn't

a single classroom in your Susie's school that's properly lighted'—or whatever it might be. It would score—every time."

On election day the better-schools people had volunteer automobiles all over the city, hauling voters without regard to partisanship or preference, so long as they voted. It was more as though the presidency of the United States hung in the balance, with the future of the whole country at stake, than a mere school board election.

When the returns were all in, the better-schools people found they had literally swept the city. The opposition candidates had been overwhelmingly defeated—two to one, or more.

Later, while the going was still good and the school-reform sentiment still strong, a recall election was staged, that took one of the remaining hold-overs off the board, and put a better man in his place.

That was all a good many years ago. With the fight won, Swan dropped back into the business routine from which he had emerged to "start something" in the Denver school world. He felt that he had done his bit.

The results of that political overturn of school affairs have been far more lasting than at Chicago. The school board gets only two new members at a time. At first there was no particular upheaval.

The same superintendent, who had wanted all along to do more than his school board would allow him to, as is usually the case, was kept in charge, but given more authority along constructive lines. Three years later, when opportunity offered, Jesse H. Newlon was drafted from Lincoln, Nebraska, where he had been making a record in school work that brought him into national prominence. First a $2,000,000, and later a $6,000,000 bond issue was voted for school buildings and grounds—the beginning of a comprehensive construction program.

Under Newlon's guidance, a study of what to teach, and how to teach it, was carried on by Denver teachers, working with special appropriations, that has thrown valuable new light on the subject for the entire country

"Are there any men or women in the city who would make better school board members than those we have now?" is a valuable question in any community desiring better schools. "Why can't some of them be put on our board at the next election? Who is responsible for the nomination of school board members? Is it a political matter in this community, so that better men can't be put in, or even induced to serve, unless we have a new political deal?"

Frequently, to be sure, particularly in small

communities, mere ultra-conservatism is responsible for failure to get action in the matter of more progressive schools. Where that is the case, it is time to get more open-minded, forward-looking men and women in charge of local school affairs. But far more frequently, when it seems impossible to get improvement in method and personnel, there is a big political reason behind it. All any community has to do is to neglect school matters for a time—let them "run themselves"—and politicians step in to run them. Then as small a matter as a political friendship or minor favor, some most insignificant keeping-up of political fences, may block school reform and stand in the way of community betterment.

Attracting Brains to the Teaching Profession

One of the open roads to further school betterment lies in the securing and training of better teachers. This will require a greater investment in education, but one that will pay high dividends.

When a business man has a factory which is running inefficiently, and decides that the inefficiency is due to the fact that his low-paid manager is worth even less than he is paying him, he is not likely to continue to employ that manager. Nor is he likely to try to get another low-paid manager, knowing that a low salary fails to attract a high-

class man. He is far more likely to invest more money by putting at the head of his factory a man of first-rate ability, capable of making it pay. The same reasoning applies to schools. Until we put trained teachers with the best sort of personal equipment into our schools, we shall not succeed in getting best value from even the money that is now being invested.

Carrying the financial argument still further: more important than any mere increase in the efficiency of the schools that will result from superior personnel, will be the increased wealth-producing power of the product of our schools. Boys and girls who are well trained in habits of work, who know how to coöperate, who recognize the necessity of playing their part well in the human game will, when they grow up, produce vastly more real wealth than will muddling, half-educated children who have merely learned to read and write and figure.

Not long ago a report was made to the Carnegie Foundation that questioned the ability of the American people to continue to pay as liberally as hitherto for education. Frank Vanderlip, formerly president of the National City Bank in New York, answered the report publicly. He pointed out that if we educate all the children of the state, improving the type of the school and quality of

teaching, the increased wealth that will result directly and indirectly will far more than offset the increased cost.

To invest more money in education involves legislation. And when one starts to secure adequate school legislation, one can see plainly that the schools of a generation ago failed to give perspective to many of the men who are to-day making our laws.

During a session of the legislature in one of the Middle West states, a bill was proposed that would require every teacher to have at least a year of training. A school superintendent, discussing the merits of the bill with the chairman of the Education Committee of the State Senate, suddenly heard this remark: "I don't see why we want any higher education for our common school teachers. What do they want to learn mathematics and furrin languages for?"

The school superintendent protested: "But we do not want them to have mere academic higher education. We want to train them to teach children the common things well and to give them an education that will make them better citizens."

"Well," answered the chairman of the Senate Education Committee, "if they don't learn how to teach by the time they finish high school, I guess they won't never learn!"

It is against such ignorance in our legislative bodies that an enlightened public opinion must fight if we are to make our schools into efficient training stations for coördinated and coöperative citizenship.

More important than methods, more important than buildings, more important than any other one need or any combination of needs in schools, is the personality of the teachers. Right now the great majority of teachers in American public schools are entirely incapable of performing the task that our vast changing civilization demands. We are the only country of first-rate importance in the world that does not demand training of its teachers. Not one-third of the teachers in the United States have received even the minimum amount of training which an effective school system should demand. The number of young girls fresh from high school, entirely untrained for teaching, and even of those who have not received a complete high school education or are just out of grammar school, is appallingly large. When one considers that millions of the citizens of to-morrow are being "trained" by young, inexperienced, untrained girls, one realizes how fundamental the change must be if our schools are to meet their new responsibility.

We cannot demand training, we cannot secure

superior personalities in the schools, unless the inducements for teaching are such as to attract good minds in every community. No profession or business is as important for the welfare of our country as that of making our next generation more effective than this one. But the best and most capable families in each community seldom urge their children to enter the teaching profession. Teachers as a class are far from being the best thinkers, the most wide-visioned people in the country.

We cannot expect to draw the best type of person into the profession of training our children if, through the salaries paid and the professional training demanded, we clearly indicate that we consider teaching as of second- or third-rate importance.

Last spring the superintendent of schools in a prosperous mid-western town was driving down the street in his Ford. A little boy who had recently come to the town was walking down this same street with his mother. He said, "Mother, isn't that Mr. McDonald in that Ford?" When his mother said, "Yes," he asked: "Hasn't he got any other car?"

"I'm sure I don't know, but I don't think so."

"But isn't he the superintendent of our schools?"

"Yes."

"Can't he afford to buy any other kind of car?"

Parents' standards of judging people are reflected in their children. If a teacher is evidently poor, she is less likely to command the respect of her pupils. Granted the superficiality of the standard, we in America judge success and value to a very considerable extent by financial prosperity. A reasonable amount of financial prosperity is usually necessary, not only to self-respect, but to prestige and standing in the community. A teacher cannot give children the sort of training they should have if she has not both self-respect and the respect of the community, and if she cannot mingle freely and easily with the people whose children she is training.

It is even said, "If we make teaching too lucrative, we shall attract mercenary-minded people into the profession instead of those who go into it in a noble and self-sacrificing spirit like that of missionaries."

Unfortunately, with our present American standards, young men and women choosing a profession are not likely to consider any calling noble and worth entering, which by all external signs is regarded as of low value. They cannot be expected to want to make great personal sacrifice to enter a profession which is so lightly regarded that most of its members have not been trained

for it, while but few of its members receive adequate compensation. The epithet oftenest hurled against Woodrow Wilson by his enemies was that he was a school teacher!

If we wish to secure the best possible personalities in the teaching profession, it is necessary to make that profession so attractive that people will be willing to train themselves well for it. Then and then only Boards of Education through their superintendents will be able to select the best type of men and women for the work.

Though all this means more money for the schools, it must be money well spent. It must not mean merely higher salaries for inadequate teachers but first-rate salaries for first-rate teachers.

Furnishing Adequate Training to Teachers

One place to invest more money is on normal schools. Teachers will not be better on any wide scale until the normal schools are better, and more generously supported.

Nothing in the educational field is much more discouraging than a visit to a typical American normal school or state teachers' college. There are usually a number in each state, located at places strategic from a political standpoint. Many have separate boards of trustees. These boards and the normal school presidents do battle with the legis-

lature every two years to secure appropriations. Not infrequently the different schools work against each other, each anxious to get the biggest plum. Tangible, vote-getting things, like handsome buildings, they often obtain; but salaries adequate to attract the best men and women to their faculties are rarely granted.

Normal school presidents are too often political appointees. And some who are not, have remained on the job until they have become fossilized. One such president, an admirable gentleman, scholarly and idealistic, but belonging to a past generation, said recently to a group of school superintendents: "No real advance has been made in education for twenty-five years!" Unknowingly, he dated the end of his own period of growth.

A lecturer on progressive education a couple of years ago was asked to select an opponent who would stand for "the good old times" and argue ably against progressive methods. "Get any normal school president beyond the age of fifty," he wired.

This, of course, is gross overstatement. But certain it is that the general run of normal school presidents is conservative. "How can we be otherwise?" asked one. "We must prepare teachers for the rank and file of schools, not for the few leaders. Our teachers go out into country districts, little

villages, places with provincial trustees and conservative superintendents. Such modern methods as we do teach are often discarded by the heads of the schools to which we send our graduates. We try to keep up with, or one jump ahead of, the *usual* school. That's as far as we dare go."

Then the superintendents and school boards say: "How can we put in new methods when our teachers are not trained for them?" And thus the vicious circle is completed.

Neither alibi is valid. Superintendents of better schools have been able over and over to surmount the serious obstacle of inadequately trained teachers, and normal schools that have dared to be progressive, have survived and flourished.

Burk, in the San Francisco State Normal School, trained teachers for individual instruction fifteen years ago, and they got jobs as readily as the graduates of any other school. A western teacher's agency once remarked, "When we have to make a blind recommendation—one where we don't know the candidates personally, and don't know a great deal about the job, we always try to find a San Francisco Normal girl. The initiative, originality, and self-reliance that Burk puts into his girls makes them land on their feet wherever we send them."

The Colorado State Teachers' College is an-

other example of the fact that graduates of a progressive normal training school can find jobs. It also illustrates the advantage of having fewer schools in a state and making them good. Colorado has only this one regular normal school; so it is well supported financially; it commands the interest of the whole state; and it is able to do a good job.

Equalizing Educational Opportunity

Many political phases of school administration have to do with taxation. Schools have to have money. Frequently they need more money than they can get. That often means carrying school matters to the legislature.

Legislation must not only provide for more revenue and better normal schools. It must secure a greater equality of educational opportunity for the many and various school districts throughout each state. The state, not the individual district, must eventually bear the brunt of school costs.

In most states money for the schools is raised chiefly by local taxation in each district, usually supplemented to a small extent by county and state taxation. The result is great irregularity among the districts. There are, for example, two districts near Chicago, separated by a street. In one district there are very valuable and lucrative railroad

yards. The district, being occupied almost entirely by these yards, has only to support one little schoolhouse with half a dozen children. On a tax rate so low as to be negligible that school has ample funds. In adjoining school districts live the workers who operate these railroad yards. They have large families, poor homes, small incomes. The assessed valuation of their district is low, the number of children to be educated is large. Taxing themselves the maximum allowed by law, they still are unable to give their children an adequate education. Back of each child in the first district there is an assessed valuation of $22,548. Back of each child in the second the valuation is $1,222. In two other adjoining districts the difference is even greater, the valuation back of each child in one district being $3,800, and that back of each child in the other being $85,000—nearly 23 times as much!

In these days of quick and easy transportation the residents of the wealthy district can't say, "I shan't worry about the children in the next district to mine. The children here will be well educated. Let the others take care of themselves." People educated in one district move into another, and, wherever they are, they help to make laws.

Frequently the poorest districts are those in which foreign-born workers are living. It is not

safe to give their children a slipshod education. No cost of education could possibly be so great as the cost of a growing, irresponsible rabble. Remember our interdependence.

Part of the solution of this particular problem lies in a larger unit of taxation. If we tax all people for the good of all the children, we can minimize the difference between the educational opportunities of various school districts. But the moment school authorities in Illinois, for instance, tried to increase the state's share of the support of the schools, different counties began to figure up whether or not they would get as much back from the state as they paid in school taxes. They found that, apparently, some of them would not. The whole principle of the large unit of taxation is that the wealth of one county will make up for the poverty of another.

We have long accepted as just, the principle that the rich man must be taxed more than the poor one. His children get no more from the public school than his poor neighbors'. Yet his school tax may be ten to a hundred times as great.

In the cause of democracy we have accepted this principle as applied to individuals. But we find that when we apply it to districts and counties the old battle has to be fought all over again. The rich county has to be persuaded that because it can

afford more money for the schools of the state, it should pay more money for the schools of the state, even though the major portion of that money may be spent in an adjoining poor county. The task of making people realize the interdependence of county on county as well as person on person, and persuading them to place the wealth of the state as a whole at the disposal of the children of the state as a whole, regardless of district and county lines, is a difficult one. But it can be accomplished.

We must then secure legislation increasing the state's share of the support of our public schools until it is so great that inequalities of educational opportunity cease to make dangerous sores and breeding places of ignorance and unrest in each state. We must increase the amount of money available for the schools until it is adequate to put a well-trained teacher with personality and vision in charge of every twenty-five or thirty children throughout the country.

To see how this can be brought about—to find a specific instance of how it has already been brought about in a section of alternating rich-and-poor school districts—we can turn to St. Louis County in northern Minnesota. The story of school-improvement in that outlying district reads like a fairy tale.

St. Louis County reaches from Duluth to the Canadian border. It is bigger than the whole state of Connecticut, with Rhode Island thrown in for good measure, and most of Delaware besides. A great deal of it is wooded. Most of it is sparsely settled. The majority of the settlers are "foreigners"—or, at least, foreign-born. In the outlying districts there are some Hungarians, but the greater number are Finns. They cut timber, and clear little patches of land for farming. During the winter they live, sometimes for months together, on salt fish and sour milk. From time to time forest-fires sweep through the territory, searing great areas with blackened streaks of desolation.

The rural schoolhouses of St. Louis County used to be the poorest buildings in the community; now they are the best. School sites used to be swamps, or rocky knolls, unfit for other use, bought because they were the cheapest land, or could be had for nothing. Now a school site is picked for beauty; the school must have the finest place of all!

Let us take a look at School Number One Hundred and Sixty, in the country district—the Five Lakes school. It is a trim, modern, two-story building, on a cleared knoll before a beautiful lake, lost in the wilderness of woodland that

stretches for miles in every direction—ten miles to the little lumber town of Floodwood, fifty miles to Duluth. On the forenoon of a clear day, sunlight sparkles on the lake, and makes brighter still the clean colors of the flag twisting lazily about the top of the tall white shaft that rises, trim and slender, from the school yard, above the surrounding pines. Children play about the grounds—baseball on one side of the schoolhouse, some girls' tag-game on the other. Where do they all come from? How is a school like this, in the midst of such a poverty-stricken wilderness, possible?

Until recently only twenty percent of the children in the rural districts of St. Louis County could speak English. One in five. Until recently most of the widely scattered rural schoolhouses were little more than log huts. Until recently, too, a rabid form of shouted socialism was rife—not the intelligent, almost conservative theories that successfully elect mayors in Milwaukee, but the near-seditious rantings that hold hands with moonshine and licentiousness. At one schoolhouse a crowd tore down the flag and trampled it underfoot, and ran up a piece of red cloth in its place.

To-day eighty percent, instead of twenty, of the Finnish children speak English. Four out of five, instead of one. School children are teaching

it to their little brothers and sisters, against the time when they too will come to school—yes, and teaching it to their parents, and sometimes to their grandparents as well. There are to-day one hundred and sixty-eight schoolhouses scattered throughout the so-called "unorganized" district that takes in most of the rural area of the county—neat, modern schoolhouses, in charge of teachers who have had at least the full "short courses" of Normal School training beyond their high school work. In the very place where the Stars and Stripes were pulled down and stamped in the mud, a community gathering has since cleared and leveled the ground around the present new school building and helped the children set out a hundred pine trees to shade the work and play of children to come—*American* children, their own and others. Twelve teams they had on hand to haul the trees; it was a community enterprise, an American enterprise, and they were proud of it.

During one of the last forest fires, a country district school was seriously threatened. When the principal of the district finally got to the place through the danger and smoke, he found that for forty-eight hours children and parents had been fighting with pails and blankets, trying to save the school while they let their own houses go.

The change came about through the leadership

of C. H. Barnes, during his term as County Superintendent. He is a huge man standing more than six feet six in his stocking feet. A quiet, homely, gentle man, with the uncouth hands of a farmer, and the friendliness of a child. A huge, romantic frontier figure, perfectly in keeping with St. Louis County, where you ride two hundred miles to reach the Bear River School—one hundred and fifty-three miles from Duluth as the crow flies—and perhaps come home with a deer on the running-board or half a dozen partridges in the tonneau.

The job of bettering the schools of St. Louis County began when Barnes first ran for County Superintendent. To benefit the bankrupt rural areas, where there were no schools worthy of the name and no money to build them, he decided to tax the whole county.

The school problems of northern Minnesota are the problems of rural schools the country over. In most cases nobody has yet been able to solve them. Every community in the United States, from New York City down, has its rich men and its poor men. School conditions from coast to coast have been improved through getting rich men to see the necessity, and fairness, of letting themselves be taxed to help educate poor men's children. Barnes has been one who has solved

the more complicated problem that exists when the "rich men" are whole school districts and the "poor men" certain other whole school districts.

In St. Louis County the "rich men" districts are what they call the Ranges—great ore-filled hillsides that stretch transversely across the whole county. There—aside from the city of Duluth—the wealth of the county lies. Barnes' proposal even before his election was to tax the Ranges for the rural schools. But when he told his friends what he proposed to do, they thought he was crazy.

"Sure, it's the right thing to do," they said. "Only, it can't be done. No rich district is going to stand being taxed for something it won't get any benefit from."

Barnes said he was going to try it.

"Then at least keep quiet about it until you're elected," his friends said. "If what you propose once leaks out on the Ranges, you're beaten."

But that wasn't Barnes' way. He took for his campaign slogan "An equal educational chance for every child in St. Louis County." And he did his campaigning right on the Ranges.

"If you folks elect me," he told them, "I'll call on you for schools to educate the other fellows' kids."

He was a better politician than his friends. It

was the old story of having a well-posted, sincere man on the right side of the argument. All real fairness and good sense was on his side. He was swept into office by the biggest majority ever rolled up in St. Louis County. And his heaviest vote was polled by the Ranges.

After his election, Barnes got through the state legislature a law called the "Eight-Tenths-Mill Law." It levies a tax of eight-tenths of a mill—less than a tenth of a cent—against all the property in St. Louis County, to be used only in those districts where a local three-cent tax will not raise $90 per year per child. That is getting right to the heart of the matter. It lets out Duluth, the biggest city in the county. It lets out all the independent districts that are able to pay for their own schools. It raises money just for the districts that need it.

Sooner or later the entire nation will have to figure on some such aid as this to the more needy educational sections. At present, California, for example, and a few other prosperous states, have $10,000 of assessed valuation behind every child, while some of the poorer states, like Tennessee, have hardly $2,000 per child—less than a fifth as much. With such discrepancies we cannot talk very much about equality of educational oppor-

tunity until Federal legislation has provided means whereby prosperous citizens and communities and states may help with the burdens of the less well-to-do.

CHAPTER V

How Better Schools Are Organized

WITHOUT a small, compact school board, good progressive schools are almost an impossibility.

Small, Compact Boards

Nearly all the great cities of the country have struggled, for longer or shorter periods, with unwieldy school boards. New York, St. Louis, Los Angeles—to cite examples from coast to coast. Ward systems of election, with each member of the board representing a certain political ward and section of the city, are usually behind big boards. Each member has to look out for the interest of a certain section of the city, with the best interest of the entire community taking second place. The disadvantage—unless any member of the board is so broad-minded that the good of the whole city transcends in his own mind the interest of his own district—is obvious. Almost without exception, where progressive movements in education have come to anything even remotely resembling permanency, small, well-chosen school boards, elected at large and with only the best interests of the

entire community in mind, have been responsible for, and a part of, the advance. Otherwise, no matter how fine a momentary advance may have been, it is soon over-run and blotted out by the results of administrative difficulties and political retrogressions.

One-man Control

Most progressive school systems of the present time have been helped to efficiency through the elimination of one great drawback that handicapped nearly all the big-city school systems of yesterday. Full school responsibility has been placed on the shoulders of a single man—the superintendent of schools.

Consider the gain. Under the old system that prevailed for example in St. Louis, the school system was under three heads, all directly responsible to the school board. There was the business department, in charge of school finances. There was the building department, in charge of the planning and construction of all new buildings, as well as the care and maintenance of all school buildings and grounds already in existence. Through the school board and its various committees there was of course a fairly close coöperation between these two departments and the third department in charge of the superintendent of

schools—instruction. The system, nevertheless, put the school board in entire charge of all school affairs, with the superintendent of schools merely one of its agents, on a par with other agents to whom it had also delegated a certain amount of authority. This meant inevitably a school system run by amateurs, men and women from different walks of life, knowing little or nothing of the intricacies of school administration and management, elected because of this or that prominence or popularity or political preferment. The superintendent of schools was in charge of instruction only, merely a hired man of the amateur school board, with neither responsibility nor opportunity for full and independent action.

Where the school board, on the other hand, selects the superintendent of schools as the single responsible head of the school system, a unity and effectiveness of management is possible that could never be attained otherwise. The superintendent is a professional. Instead of a school system run by amateurs, the result is a school system run by one man, with thorough training in his field and full qualification for the work. The school board, representing the community to see that the work is well done, merely authorizes the superintendent's expenditures and procedure. It turns him out if he proves ineffective or over-extravagant or in

any other way incompetent. This system alone can secure full school effectiveness through the elimination of waste, misunderstanding, lack of coöperation, the bungling of amateurs, and all opportunity for alibis.

But let us suppose that a community desiring progressive schools has already, through its school board, taken this first important administrative step and delegated full authority and responsibility to the school-head selected to run the system and inaugurate improvements. The next thing to consider is what administrative measures superintendents of successful progressive school systems throughout the country have found effective.

Sound Finance

Wise use of money stands well toward the top of the list.

Perhaps because educators as a whole are not mercenary, and are often indifferent, rather than keenly keyed, to financial problems and necessities, most public school systems are run on the hand-to-mouth basis of a family continually living beyond its means. The average school superintendent feels sharply the inadequacy of the school funds at his disposal. His plans for school improvements, for new buildings and a bigger playground and more equipment and better teachers on a more

liberal salary schedule, far exceed his budget limitations. He has to pare and prune and give up and compromise, whittling away at this point and abandoning entirely at the next, and postponing a third until another year. The result, naturally, is that he stuffs his budget full, to the last cent, with what he hopes to accomplish. No margin is left for emergencies, or expenses that for one reason or another exceed the original estimate. Before the end of the year he has come to the end of his bank account. But the schools must go on. The city's credit is good; the school board will have to secure, and the city fathers provide, funds to meet the deficit. In the meanwhile the simple expedient is to borrow money. Sometimes this can be done from the city itself, and sometimes from banks or other institutions, against the appropriations to be made for the ensuing year. Hundreds upon hundreds of big and little communities, from California to Maine, follow the custom; it is almost universal. The appropriation for each school year has to include, first of all, an amount to cover the deficit of the preceding year. The balance is to carry on with.

This prevalent system has a tremendous psychological drawback. In American communities where standards are set by so-called "sound" citizens who pay their debts as they go along, ability

to live within an income is at a premium. School boards, school superintendents, school systems generally, suffer from their inability to meet the commercial standards required of individual citizens of good standing. Schools, insofar as they touch the individual pocketbooks of the community through school taxes and special appropriations, are regarded as necessary evils, rather than as sound investments, or anything to be particularly proud about.

The disadvantages that behind-their-income school systems labor under is not, ordinarily, very evident. But to appreciate it we need only turn to those rare instances of financial farsightedness among progressive school superintendents who have succeeded in putting their school administrations on a sound, pay-as-you-go basis. They enjoy a degree of respect, of community support and whole-hearted enthusiasm, absolutely invaluable for purposes of school betterment.

The schools of Des Moines, Iowa, under the leadership of J. W. Studebaker, furnish as striking an illustration of this as can be found.

Studebaker is a small, intense, active man, alert in mind and body. He handles his school system with the generalship of a varsity quarterback driving a football team toward a rival goal—watching the whole field, snapping out signals, and patting

his huskies on the back as he sends them into line. On a college crew, he would be the coxswain. And the crew would give a good account of itself.

Studebaker's own training was unusual. Few college graduates are also bricklayers. Bricklaying does not occur to the average university student as a likely way to earn money. But with Studebaker, although he came of a long line of teachers and intended to be a teacher himself, that was not the case. When the time came for him to get out and hustle for the college education he wanted, he got a job wheeling bricks and helping to mix mortar. Because he was undersized, he had to do nearly twice as much work as other new men, to prove he could hold down a job. He was only a slim high school boy, and partially blind in one eye. But he made good at bricklaying, in competition with strong grown men. He joined the Union. He got a point of view that few school teachers have. He kept on with his bricklaying, each summer and vacation, throughout his college course, and even for several summers after he had graduated and begun to teach. Combined with the theoretical knowledge of the trained teacher, he had practical knowledge of competitive life. To-day, walking along the walls of any of his new school buildings, he can rap the bricks with his finger-tips, and call attention to the fact that they are good

bricks, well laid. He knows values. He knows the point of view of the average householder concerning value received for each dollar expended. When, after several years as assistant superintendent, he was put in charge of the Des Moines schools, he went to work to secure a thoroughly progressive school system by beginning at the very bottom.

He had the advantage of a small, representative school board that put all responsibility upon his shoulders. But, having raised him from assistant superintendent to superintendent, they were watching him closely to see whether or not their judgment was justified.

When Studebaker came into office Des Moines teachers were working under the handicap of old and inadequate schoolrooms in antiquated buildings, in temporary buildings, in basements, in churches. In the rapidly growing city the whole school system had far outrun its accommodations. The temptation to embark at once on an ambitious building program, that would meet present emergencies and at the same time provide for the future, was tremendous. But because the whole school system had already gone far beyond its budget and was almost hopelessly in debt, Studebaker waited. His first job, as he saw it, was to put the Des Moines schools on a sound financial foot-

ing, and in so doing win the confidence both of the school board and of the community it represented. There was on the books, when he became superintendent, a deficit of $391,000. That was in 1920. In two years the deficit was wiped out, and at the end of the third year a working balance of $264,000 was substituted for it.

Most school superintendents complain that they cannot get money enough to make many improvements. But not Studebaker. He at once joined the army of those who have been showing that the biggest educational improvements in this country are coming primarily through the use of brains and energy, rather than more money.

"It is just as important for a school system as for an individual," Studebaker says, "to keep inside its income. It is not good business to spend more than you have—and business men know it. Make your money go as far as it will, and don't spend any more. Get as good value for every dollar as you can. Then, if the schools really need more, you can go to your board and show them the results you have secured with what you have spent, show them that you have kept within your income, that you understand and share their point of view in business matters and talk their own language financially. Then show them that more

money is needed, as a sound investment for better schools."

Adequate Building Program

When, after he had put into effect a real budget system as well as various economies, Studebaker went to his school board with a clean balance sheet and asked for more money for new buildings, the results were surprising.

He had been sick. Convalescing from a siege of diphtheria, Studebaker worked out an elaborate building survey including five different plans for new and more central school sites, with greater playgrounds, new buildings and better equipment. Of the five, the board selected, and the voters later approved and bonded, the most extensive and expensive. It called for an outlay of more than six million dollars for new school buildings, in a city of less than 150,000. This was exclusive of the new school sites and playgrounds. Studebaker, through his sound finances, had won the confidence of the entire city.

When it came to the planning and erection of the new school buildings, Studebaker appointed committees of the teachers and principals who would use those buildings, with their supervisors, to plan each building and the details of each room in each building. The result of this com-

mittee work was made available when the architects' plans were drafted. The result is that Des Moines has to-day school buildings that meet to an unusual degree the desires and requirements of the teachers who use them. This is true all the way from the smallest grade schools to the five big junior high schools erected at a total cost of $2,700,000, and the big senior high schools that were the most expensive of all,—nearly a million and a half apiece. The Des Moines building program included some twenty new elementary schools built after consultation with the teachers and principals who were to use them.

Wherever possible, an entire city block was purchased for each school site. Each building was erected in units, for classes from kindergarten through to sixth grade. One school unit, allowing for classes of about thirty children each, accommodates about two hundred pupils. The first units—all that the population of the city called for at the moment—were built at a corner of the block, fronting on two streets. This made it possible to add other units later, as the school population increased, until the school buildings extended the entire length of the block on each of the two streets, in the form of a letter "L". All the rest of the block was for playground.

A typical elementary school building at Des Moines contains gymnasium, library, auditorium, kindergarten room, nature study room, industrial arts room, and two classrooms more or less of the old-fashioned order. Only two rooms out of seven, aside from the kindergarten room, are of the old desk-and-recitation type. The gymnasium is big and airy, with dressing rooms and shower baths and all necessary equipment. The library, where English is studied, has great tables instead of desks, with bookshelves built along the walls. A comfortable, informal room, this library, attractively decorated, almost enough in itself to make children like books. In the little auditorium, twice classroom size, are theater seats with patent desk-arms, such as one might expect to find in any up-to-date university classroom. Projection booth and motion picture machine are provided. In the nature study room there is a big aquarium, and extensive window boxes for growing plants, with tables and chairs instead of desks. In the kindergarten room, somewhat resembling the nature study room, benchlike chests along the wall are available for storing all manner of educational toys and equipment, including blocks big enough to build "real" houses that six-year-olds can play in.

In the industrial arts rooms, fitted with a Des Moines patent, combination table-desk-and-

work-bench for each child in the class, there was, perhaps, the most interesting advance of all. Each desk or work-bench is equipped with an adjustable drawing-board, a vise, drawers for materials and places for tools. Tin-lined vats along the walls are provided for modeling clay, and moisture-proof little compartments in which to keep partially completed work. Cupboards of all varieties are added to heart's content. When it came to cupboards, in fact, even the two old-type classrooms had an equipment that would make most public school teachers Nile-green with envy, with especially devised places for storing charts and maps and an amazing variety of other conveniences.

In comparison with these schools, the almost obsolete buildings, such as you find in most of the larger eastern cities, with their array of set recitation rooms in charge of underpaid, discouraged teachers, seem to belong to the dark ages.

Efficiency Through Salary Scale

But these Des Moines buildings are only means to an end—to secure greater efficiency in teaching the common essentials of knowledge to grade school children while at the same time stimulating their interest in, and liking for, knowledge and the gifts it confers. To that same end another administrative measure is still more important—namely,

the securing of capable, enthusiastic, well-trained teachers.

A corps of teachers of superior ability is the dream of every progressive superintendent of schools. Studebaker, even during the time when he was still tremendously handicapped by lack of funds owing to the extravagances and careless bookkeeping of his predecessors, started in to get better teachers. He wanted greater teaching efficiency than his predecessors had been able to secure. He knew that no school system or method of teaching is any stronger than the teachers who operate under it. And he knew that in general, throughout the country, elementary public school teachers to-day average in age and schooling about up to office stenographers. In the schools of a generation ago high school teachers and those in charge of the upper grades were considered far more important and were more highly paid than elementary teachers. Psychologists have recently been stressing the fact that children's earliest years are the most important of all, and that the teacher of first-grade children should have quite as much training and just as high qualifications as the one in charge of older pupils. Studebaker realized all this, so he worked out a new "single" salary schedule. Already it has been widely copied. In this schedule, teachers in the kindergarten or ele-

mentary schools are paid as much as high school teachers with equal qualifications. But its main point is to provide incentive for all teachers to become proficiently trained. A teacher with only two years of normal school training, is not paid as much as a teacher with three years of training. Moreover her pay does not increase as rapidly in advances from year to year as that of a more highly trained teacher. The figures are planned so that a teacher can drop her work for a year, borrow money for an additional year of study, and come back to her position at Des Moines at the salary she would have had if she had continued teaching steadily, *plus* enough additional to pay interest on her year's investment. With the additional training, also, her rate of salary advance, each year, is greater.

Five hundred out of nine hundred Des Moines teachers went to summer school the year after the new salary schedule went into effect. The percentage of college-trained elementary school teachers started up with a bound. There was an inrush of new ideas, new information, new enthusiasm.

Supervision

In order to allow teachers to meet the individual differences of children in their charge, and provide for a better development of each, Studebaker

paid particular attention to the selection and training of a corps of supervisors, and of the principals of each of the city schools. Just as he himself, as superintendent, had been given full responsibility for, as well as full charge of, the entire city school system, he delegated full authority and responsibility to each supervisor in his particular field, holding him accountable on the basis of results secured. Carrying the same principle a step further, each school principal was given full charge and full responsibility by the supervisor. Thus the confusion and hampering effect of undue interference from above were avoided. Unity of aim and of effort was secured by round-table conferences and similar methods, rather than by any hard-and-fast rules. School principals were encouraged, in the same way, to delegate full authority and responsibility to the teachers in their charge, holding each accountable for results secured, but leaving each to work out problems as they arose in the way that suited them best. This entire system, of delegated authority and responsibility carried through from top to bottom, gave flexibility, independence, and, through conferences and free discussions of ends to be achieved, unity of aims and efforts. Still more important, it served, as an administrative measure, to adapt the city's school system to each individual child in greater degree than would have been pos-

sible under more rigid methods. For each teacher was free to allow the children in her care to act as individuals, with emphasis laid on the achievement of desired results rather than on method.

In most better schools the building principal is given a great deal of autonomy directly by the superintendent and is in no sense subordinate to the supervisors. The supervisors are, instead, expert consultants. They are like specialists called in by practicing physicians. Their views are held to be extremely valuable, and their advice is usually followed, the principal being the one responsible for seeing that it is followed. But their authority is only through their powers of leadership, their expert knowledge, and through, not over, the principal. A failure to differentiate clearly between the authority of the principal and the expert advice of the supervisor, has led to friction in many school systems large enough to have both supervisors and principals.

Generally speaking, the success of supervision depends upon giving responsibility, freedom, stimulus, and expert help, from the top to the bottom. The superintendent is not the boss, but rather the coördinating head of his system; under him, but left largely free and responsible for their buildings, are the school principals; these in turn leave their teachers as much latitude as possible for

originality and initiative, for variation among themselves, and for participation in the forming of school policies; and the teachers give freedom and responsibility to the children. Permeating this hierarchy, as expert advisors and helpers and as stimulators of originality and initiative, are the supervisors.

Some such supervisory organization as this is essential to progressive education.

Teacher Housing

In the matter of securing teacher efficiency and flexibility it is interesting to compare Studebaker's system with that of C. H. Barnes in the Minnesota county school system referred to in the preceding chapter. Salaries in city school systems are of course bigger than they are in sparsely settled rural communities. Country school districts can not afford to pay as much. When you consider the low salaries and the boarding and housing troubles of country school teachers, you get the main reason why so many of the country teachers of the United States are inexperienced and undertrained. Only the most inadequate teachers, as a general rule, are willing to put up with the low pay and hard conditions of the outlying districts such as St. Louis County, north of Duluth.

Barnes, to meet these troublesome conditions,

put into effect a salary schedule that, while not big, is in its way almost as advanced and sound as Studebaker's. To make conditions for his country teachers better still, he provided comfortable living quarters for them. Sometimes these were pleasant rooms built into the schoolhouse itself; sometimes they were in adjoining cottages. Simply but attractively furnished, they were turned over to the teachers at a nominal rental—about $6 a month.

When he first took charge of St. Louis County, Barnes, needing new teachers, sent in a request to the nearest normal school, the Duluth State Teachers College. He got one teacher, who had been able to secure no position elsewhere. Four years later, after Barnes' new salary schedule and methods of improving general conditions had gone into effect, more than half the graduating class of the Duluth College applied for St. Louis County positions.

If at any time teachers in Barnes' rural schools aren't getting along as well as they should, a "helping teacher" is sent out, to spend as many days at the school as needed, studying the situation and the problems it presents, and giving whatever advice or assistance her greater experience and resourcefulness enable her to suggest. Before new St. Louis County teachers are taken on, they are

given a week or more as visitors or "novices" with the older teachers, staying at one or another of the outlying schools.

Publicity

A phase of school administration that has been brought into prominence by the success achieved by it in several large cities is the relationship of the schools to the general public—not through the election of school board officials, tax legislation and the payment of taxes alone, but through a definite system of getting, and keeping, schools and education in the public eye through intelligent press agent work. Nowadays there is a great emphasis on "selling" ideas as well as commodities, and any city or school district that can successfully "sell" the idea of better schools to its individual citizens and parents is likely to find itself on the road to permanent improvement.

Detroit, more than any other single large community, has succeeded in "putting its schools over" with the general public. The city of Detroit is definitely selling education, the public schools, its whole school system, to the voters of Detroit.

There is nothing particularly remarkable about that, when you come to think of it. We sell clothes. We sell soap. We sell automobiles and razors and particular brands of gasoline. We are

accustomed, here in America, to great advertising campaigns that make this or that electric appliance popular. We even "sell" political candidates with spectacular booms that begin with little organizations of boosters, and end with headlines in the newspapers and posters that cover whole billboards. Education is more important than all the rest put together. The Detroit school administration decided deliberately to arouse interest in school work and stimulate a desire for better schools. They decided to use legitimate advertising methods for a really great purpose, and create enthusiasm for improved teaching methods and up-to-date school equipment that would result in better education and more of it, and higher standards of citizenship. They started in to shout a little, for the benefit of the children.

Most parents have attended, at one time or another, a meeting to consider school matters. They know how dull the ordinary meeting of that kind is, with only a dead-and-alive sense of duty to take the place of real interest. If members of the school board are present, they are sometimes the most conservative old fossils in the whole place. The execution of school plans, and school business, and school improvement, seems delegated to dodos.

The Detroit school administration said in effect: "We'll wake people up about our schools. We'll

sell them a little enthusiasm about giving children a good start. We'll advertise education."

As a result of the "booster campaign" the people of Detroit got behind their schools. They became proud of them. They bonded the city to the limit to get more. They made it possible to buy the site for a million-dollar school for defectives, outside the city, with an acre of ground for each child. They voted money for sixty-four new elementary schools of the most up-to-date type and for a great technical high school, capable of accommodating nearly 12,000 students—a model of its kind. They made possible a vast unit-school, to be patterned after Oxford, where on a forty-acre tract, at a cost of over ten million dollars, there is being worked out a complete school cycle—elementary, intermediate, high school, the College of the City of Detroit, and Teachers College.

To be sure, they have made mistakes. Money has not always been wisely expended. Vocational training has been carried out along lines that have brought about a lot of criticism for so-called "factory-methods." But in the main the gain has been tremendous. There is not another big city in the country that can show a better record.

"The biggest part of my job," Frank Cody, Superintendent of the Detroit schools during the

big expansion, has said frankly, "is selling education to voters."

Big, jolly, apparently on the best of terms with himself and the world, Frank Cody seems to take himself and his job no more seriously than a politician on a picnic. It is hard to think of him as an educator. He is not of the type ordinarily associated with school reform.

For thirty years he taught school in and around the city of Detroit, as elementary school teacher, teacher of defective children, elementary school principal, high school principal, assistant superintendent and superintendent. His long climb taught him many ins and outs of American educational problems.

"School reform," he says repeatedly, "or any school improvement, has to come from *outside* as well as *inside*. Cities get better schools just about the time the voters decide they want better schools. The real trick is to wake them up. And it's a good trick—when it can be done."

Press agent and organizer of education, he regards himself. In a manner of speaking, he is hardly an educator at all. More conservative educational leaders often regard him rather as a politician than a school teacher—more or less as research workers and teachers who devote themselves to "pure" science often affect something

akin to contempt for the adapters of science like Edison or Burbank.

Newspapers have played an important part in Detroit's plan to "sell" better schools. Cody himself furnishes excellent copy. When the school authorities of Baltimore expelled a high school girl for disobeying orders and coming to school in bloomers, the newspaper editors, stirring up a controversy, asked Cody, among others, to express himself on the subject. Imagine the reporters' delight when among a mass of learned and more or less uninteresting telegrams they found a wire from Cody to the effect that before he could form an opinion he'd have to see the girl!

The Detroit "News" came to the front by featuring the "school page" idea for the paper more and more prominently. People in other cities, where a daily or weekly school page has become a recognized part of the accepted newspaper service, know how vital a factor in the procurement of better schools this feature may be. It does not cheapen education but popularizes it.

The Detroit "Free Press" finances a yearly school athletic carnival.

A local motion picture company was enlisted. In Detroit movie palaces Detroit school children, racing or playing or studying or picnicking, can usually be seen along with other news events.

The schools put in their own publication system, too, with a regular monthly bulletin. Although this is intended primarily for the use of city school teachers and administrators, yet when a matter calculated to be of unusual popular interest is dealt with, the school authorities print and distribute additional copies by the thousand.

Cody saw the advertising value of Scouting. The Boy Scout movement went into the home; why shouldn't it take the school into the home with it, tie scouting in with the school system and so accomplish a maximum result? Cody suggested, and his school board approved, the idea of putting a scout executive on the school pay-roll.

Each new school building was equipped with accommodations for scouting in a special room included in the plans. A troop was organized in every school of sufficient size. The effect on school discipline was good. This was made the subject of a special bulletin distributed to the voters.

City spelling contests furnished an excellent school publicity stunt. Grammar school children competed with grown-ups—merchants and clubwomen and others. The youngsters proved that the average eighth-grader can outspell any ordinary business man. The contest went to every corner of the city. It got so that if a child happened to open

a book on a street car some of the passengers were liable to make a dash for the door, rather than take any chances of getting more words to spell!

School children were turned out to push a city "clean-up week." A splendid job of cleaning up the city streets and vacant lots resulted—with, incidentally, more publicity for the schools.

Children were taken to street corners and taught how to turn in a fire alarm correctly. Fire engine and hose carts, hook-and-ladder and all, would come roaring up. It was great sport for the children, and incidentally, crowds would collect to see the lesson, and the resulting fire drill.

These various stunts got results. We love a good show, here in America. As Detroiters became acquainted with what their schools were doing, they became proud of them and got behind them.

A compact school board, elected at large; unification of school administration through having a capable superintendent in full charge; sound financial methods to get good value for each dollar expended and keep within the budget; adequate building program; efficiency in the teaching of the three R's, through getting well-trained teachers by means of a far-sighted salary schedule; flexibility through delegating authority to indi-

vidual principals and teachers; and letting all men know the results the schools are getting—these measures have secured the success of most of our progressive school systems.

PART II

WHAT TO TEACH

CHAPTER I

Weighing the Three R's

THE course of study in most American public schools is the result of tradition and guess-work. Some features of it are useful, and necessary. Some are absolutely worthless. And some are actually harmful.

The leading progressive school systems are almost without exception feeling around to find out which of the so-called "common essentials" of knowledge—frequently classified as "the three R's"—should be taught, and how much proficiency should be acquired in them.

Throughout the organization of the work under the Individual Technique in the elementary schools of Winnetka, the importance of determining scientifically a suitable course kept forcing itself to the front. The same thing was happening at other places—wherever an earnest effort was being made to give children an education based not on traditional requirements, but on what would best fit them for adult life under present conditions. Progressive educators everywhere have been brought to feel that there is little use in teaching

square root or area of a circle, to be forgotten as soon as the child leaves school, while neglecting to give a rudimentary knowledge of physics or the internal workings of an automobile motor.

There is even less light of a scientific kind in the experimental schools of Europe than here. For the first time in the history of education we are facing squarely an unpleasant, but tremendously important fact: *we don't really know what children should be taught.*

What constitutes problem-solving ability in arithmetic? How much of it is needed? How can it be taught? What use is geometry? What parts, if any, of algebra are of value? Is the value of Latin sufficient to justify the time it requires? There is as yet, in the main, no answer to these and hundreds of similar questions.

The University of Chicago, Teachers College of Columbia, Stanford, and a number of other universities are beginning to attack these problems. Some have established bureaus of educational research. Some public schools, too, have added research departments, one of the first of which was that headed by S. A. Courtis in Detroit.

Many of the subjects still commonly taught have crept into our American schools without a scientific investigation of their merits, or have remained in the schools long after the day of their

usefulness has passed. Latin and English grammar are outgrown vestiges of the days when the grammar school and academy prepared children for the clergy. Algebra and much of our grammar school arithmetic pushed gradually down from higher schools of learning, where they were included on the theory of "general culture." The facts taught in history are the result of abridgement of more advanced historical works, usually by college men with little knowledge either of children or of the needs of the outside world.

Undoubtedly many of the things taught are valuable. But which are they? How can we determine? The plea of general culture and mind training as readily justify teaching Sanskrit as spelling, as readily justify teaching words like "onomatopœia" as "which." "General culture" gives us no basis for selecting, out of a world full of knowledge, those facts and skills which will be most useful to children in after life.

How Denver Remade Its Curriculum

The city of Denver, following the political overturn that finally put Jesse H. Newlon in charge of the public schools in 1920, has staged as intelligent an investigation into the present-day curriculum as any big city school system. It has, however, not gone as far into the matter of introducing new

subjects or eliminating old ones as in trying to determine what parts of old subjects should be retained, and what parts dropped or modified.

Two methods of curriculum betterment presented themselves to Newlon. One was to have some leading authority on each subject under discussion prepare a new textbook for use in the Denver schools, bringing the material closer to present-day needs in the light of such new scientific knowledge as is available. The other method was to form committees of teachers already in the city's employ, and have them investigate and discuss subjects with which they were already familiar, and formulate improved courses, under the guidance of experts brought to Denver from the great universities.

Newlon decided the second method would be the better one, as it would give his teachers opportunity to familiarize themselves with the inadequacies and needs of the courses they were teaching, as they went along, instead of plunging them with a single break into something different from what they were doing, against which they might at first be too greatly prejudiced. It would have the added advantage of bringing up, instead of lowering, the *esprit de corps,* since it would enable his teachers to participate in the work of solving

the curriculum problems, instead of having to take, willy-nilly, the word of some outside authority.

Having determined on his method of procedure, Newlon went to his school board and explained what he wanted.

"If a new building," he said, "is to have an improved heating system, the improvements have to be worked out. It takes time, and a lot of thought. The architects can't get a better heating arrangement just by ordering it. Experts have to get together, and figure out how improvements can be made. That means, in one way or another, money.

"That is about the way it is with our schools. We need an improved, up-to-date course of study, adapted to present-day needs. Given the time and opportunity, I believe our own teachers, —with a certain amount of advice from experts we should have to call in from outside—can do it.

"I recommend that we do three things. The first is to provide an additional number of substitute teachers who can relieve the regular teachers during the time they are working on curriculum building. The second is to arrange for the necessary clerical work, which will not be very expensive. The third is to provide for specialists

to come, to work with our own teachers and put them in touch with the latest findings in relation to the teaching of their subjects."

On his recommendation, the Board voted $16,500 for substitute teachers. This covered the expense of enough teachers to relieve regulars for a total of nearly 3,000 days—giving five substitute teachers per school day for about three years. One thousand dollars was put at Newlon's disposal for clerical work. A third amount, $14,000, was appropriated for specialists. This provided for an arrangement with the State University and Colorado State Teachers College, for two men to give part time to the work. A. L. Threlkeld, then Newlon's assistant superintendent, later his successor, was put in charge of the work of organizing and supervising the teachers' committee, so that the work as a whole should be properly coördinated. These three men, Threlkeld, Prof. L. Thomas Hopkins, of the Department of Education of the University of Colorado, and W. D. Armentrout, Director of the Training School of Colorado Teachers College, arranged the committee into divisions and supervised the actual rewriting of the courses of study by the teachers themselves.

Whenever the material for a course was ready, an expert was brought in, before it was put in final

shape, to go over the results in round-table discussions with the teachers who had been doing the work. A formidable list of these specialists was called upon, selected with the idea that each would have a psychologist's standpoint and knowledge of children at his disposal as well as full information concerning the subjects in which he specialized. It included John C. Stone of the State Normal School of Montclair, New Jersey, on arithmetic; Ernest Horn, of the University of Iowa, spelling and reading and elementary subjects; Mason D. Gray, of East High School of Rochester, Latin; Harold Rugg of Teachers College, Columbia University, social science; W. S. Gray, of the University of Chicago, reading; Otis Caldwell, of Teachers College, science, and several others.

The work of course-revision and re-writing covered four years. It resulted not only in a brand-new set of up-to-date textbooks published especially for the Denver schools, but also in a revitalized teaching force, with more enthusiasm and energy and unity and coöperation than had ever before existed in the city's schools.

Many of the transitions of individual teachers, from reliance on tradition to an open-minded feeling around for better methods and material, were remarkable. One committee member resigned when told that the purpose of the particular inves-

tigation on which her committee was engaged was to see how geography, the subject she had been teaching, could best be combined with history in a single course. Persuaded to keep on with the work, she later rose at one of the meetings to explain how thoroughly she had become converted to the new combination course. Teachers at first were in many instances inclined to think that all new light thrown upon their subjects reflected upon their intelligence in having used materials and methods classed as obsolete. Without exception they became reconciled to the innovations on account of their obvious superiority.

St. Louis followed in Denver's footsteps and spent a much larger sum of money doing a less scientific job in making over the course of study. But the teachers who did the work, like those in Denver, grew by doing it.

Finding Out What to Teach in Winnetka

At Winnetka the working out of the Individual Technique brought out, with unusual force, the problem of what children should be taught. The very first step in fitting schools to individual children entails the clarifying of objectives. It therefore became necessary to stop thinking hazily, and instead to set down in clear terms exactly what each child should be taught to do.

The moment one attempts to set down the specific knowledge and skills which every child must master he is faced with the fact that the science of education is very young. The amount that is known is distressingly small contrasted with the amount that is not yet known, as to precisely *what* we are to teach our children. The Winnetka teachers, therefore, found themselves obliged to undertake research in one field after another in order to find out what degree of knowledge or skill would really be useful to all children in life, and what, therefore, every child should master.

Of course they made use of the research of others wherever that was available—they had to find out about it directly from reports and books, without the personal help of the various leaders that Denver was able to afford. But over and over again the books and reports contained no information on certain topics, inadequate information on others. Correspondence with leaders in different fields elicited the fact that, owing to the newness of educational science, many, many problems as to the value in life of various facts and skills were still entirely unsolved.

So the Winnetka teachers were organized into research groups to attack some of the unsolved problems. Ever since that time (about 1920) the Winnetka faculty, and schools, have been organ-

ized for research—not only as to what to teach, but as to when to teach and how to teach.

For the solution of some problems they had to get the coöperation of other schools and school systems; they sometimes had to get help from universities (particularly the University of Chicago); three times they had to call on large foundations for financial help in an especially elaborate piece of research. But for the most part the work has been done, voluntarily, out of school hours, by the Winnetka classroom teachers.

Year after year they have made their contributions to the science of education. There are few if any educational journals of national scope that have not carried articles reporting some phase of this work. Yearbooks, monographs, and textbooks on education bear witness to what a group of earnest teachers, given the freedom and opportunity and stimulus, can do in advancing knowledge of the profession.

Let us take, as a first example, one of the early researches in which Winnetka secured the cooperation of other schools and other groups to solve a problem as to what to teach.

In arithmetic, obviously, children should be taught to add, subtract, multiply and divide. But how rapidly should they be able to do this? What degree of accuracy should be required of them?

There had been, at the time the Winnetka work commenced, no investigations which threw clear light on these questions.

It is true that some studies had been made of the kinds of arithmetic used by people in their daily life. Every child in a certain school system had been asked to have his parents tell him each day what sort of arithmetic they had to use in their work. These results were brought to school, classified, and tabulated. Another study had been made of department store and hardware store sales slips, to show what type of arithmetic work was needed for this. A study had been made in factories where piece work was done, as to the arithmetic that was needed by the workers in order to determine their wages. All these yielded some knowledge as to the type of material that should be taught if our children are to meet the demands society will make of them.

But these studies did not provide nearly enough data to make the goals of individualized work clear and definite.

So a committee of superintendents and principals was organized in northern Illinois to carry out an investigation as to the degree of arithmetical speed and accuracy possessed by intelligent and successful men and women.

It began with such organizations as Rotary and

Commercial Clubs. Parent-Teacher Associations were later added in districts where these represented a rather unusually high quality of intelligence and ability. Members of these organizations, all of them presumably both successful and intelligent, were asked to take the same tests that were given to children in elementary arithmetic.

The results were interesting. The average grown person has little idea how he would come out on, say, a seventh grade arithmetic examination.

One of the school principals, taking the test himself with the rest, sat beside a well-to-do manufacturer at the University of Chicago Parent-Teacher Association when that organization was being tested. The first section of the test consisted of simple addition problems. The principal was reasonably rapid, and started in at a good clip. But presently he noticed the manufacturer grinning at him. He was doing two examples to the principal's one! He was "hanging it all over" the schoolmaster!

When they came to subtraction the principal put on his best speed, but it was no use. The manufacturer was nearly twice as fast as the school-teacher. The principal began to feel a little chagrined, while the factory owner was obviously delighted.

Later they came to long division. Here the manufacturer slumped badly. The principal put on all the speed he had, and began to pile up a clear lead.

Then came fractions. The hundred prosperous parents in the room gave one unanimous groan. From the page of the examination booklet they saw fraction problems—simple ones that are given to fifth grade children—staring them in the face! The principal went to work quickly, and after doing three or four examples glanced at the manufacturer's paper. He had tried the first example three times and was still working at it. When time was called the principal had finished his fractions, but the manufacturer had only done one example—and his answer to that was wrong!

This did not reflect on the manufacturer's intelligence. It merely showed that schools were putting far too much stress on a process obviously not much used in life. When all the results were tabulated it was found that the Parent-Teacher Associations, Rotary and Commercial Clubs alike did about as well with their fractions as the average fifth grade child, who is still just learning the process. The scores of the sixth, seventh and eighth grade children from city after city showed that they can work circles around even the more

intelligent parents in fractions and can compete successfully in multiplication and division.

This gave a definite cue as to where emphasis is needed in the schools. Speed and accuracy of the parents in addition and subtraction far outranked that of the average eighth grade child. Schools can clearly afford to work toward higher standards in these two processes. In multiplication and division the parents ranked about equal to seventh grade children. Apparently, therefore, schools could probably let up a little on these. And in fractions the demands of life are evidently so slight that it is a waste of time to give children more than the rudiments of knowledge in this field.

The question at once arises: "Is the performance of adults the right way to determine what children should do?"

It must be remembered that the men and women of these tests were decidedly successful adults. It can safely be assumed that the knowledge they possessed had proved sufficient to meet their needs. Where it had not been sufficient they had clearly increased their knowledge and skill, as was shown by the way their speed had grown in addition and subtraction. Overtraining in such subjects as fractions, evidently, simply results in later forgetting, and is therefore—aside from the

discarded theory of "mental discipline"—a waste of time.

The Illinois study in regard to the speed and accuracy needed in these arithmetical processes closely corresponded with two or three somewhat similar studies made in other parts of the country. It seems clear that schools are therefore justified in taking some of the time now used on fractions and putting it in on a more thorough mastery of addition and subtraction.

How about spelling?

It is one thing to know that children should be able to spell correctly. It is quite another to know what words. How much spelling time is wasted on unnecessary words?

The old method of making a speller consisted of taking a dictionary and selecting by the author's personal judgment the words he *thought* children would use. The new method consists of a scientific ranking of words in the order of the frequency of their recurrence, so that children may be taught the words most frequently used, and waste no time on unnecessary ones.

A number of investigations have been made as to the words most commonly used in English. In Winnetka three of these were found of great value in deciding what words every child should surely learn to spell.

First there was the Connecticut investigation. All the compositions written by the children in a number of different towns were turned in for tabulation. The compositions were cut up line by line and then word by word. These words were passed around to children who sorted them in boxes with a compartment for each letter of the alphabet. These were further sorted and tabulated. Altogether more than half a million running words were sorted in this way, coming from 50,000 children's compositions. From this study the words most commonly used by children were readily determined.

The second of these investigations took place in Iowa. Children of different schools brought from home 3,723 business and personal letters received by their parents, containing a total of 361,184 running words. These words were also sorted and listed in the order of frequency. From this it was possible to determine which words were most frequently used in adult correspondence. This study and many others were later put together by Ernest Horn, who tabulated, altogether, studies aggregating nearly five million running words in non-professional present-day writing, and compiled, as a result, a list of the 10,000 commonest words in current American non-professional use.

Edward L. Thorndike at Columbia University for years collected word studies. He used the first Iowa list, but also counted the words in books, periodicals, and many other places, covering altogether 41 sources, from Shakespeare to modern newspapers, and including over four and one half million running words. From this the 10,000 commonest words in the English language in general were determined.

A speller containing say 4,000 words should obviously include the 4,000 commonest words in the language. Every child should know how to spell such words as poor, power, present, pretty, put, quick, run, rise, reach, read, and reason, which are among the 1,000 commonest words in the English language.

On the other hand, such words as defalcation, meritorious, gratuitous, encumbrance, and ascendancy are so little used as not to justify teaching them. These words are not even included in the 10,000 commonest, and yet are included in old-type school spellers still widely used to-day.

By combining the results of these three investigations, and by discovering the exact degree of difficulty of spelling each word so found, it became possible for the Winnetka teachers to prepare, on a scientific basis, a course of study in spelling.

When it came to the question of history and

geography a blank wall was struck. There nobody had carried on any adequate investigation as to what facts are most important. The Winnetka teachers therefore had to start an investigation themselves.

One important function of history and geography, they assumed, is to give children sufficient acquaintance with persons, places, and events to enable them to read and converse intelligently. Obviously a child who does not know whether Paris is a mountain, a river, a general, or merely something connected with potato bugs, can not read a newspaper or magazine intelligently, if frequent reference is made to Paris. To decide what historical and geographical facts are alluded to frequently in the literature of to-day, fifteen Winnetka teachers met one evening every week, sitting around tables in newspaper offices, or the Chicago Public Library, or in school buildings, with magazines and newspapers, writing down on little slips every reference to a person, place or event. Altogether they went through eighteen periodicals, scattered in such a way as to cover every month of every year from 1905 to 1922. They had bushel baskets full of little white slips with the names of persons or places, the articles and periodical in which these names occurred, and the date of each occurrence. Altogether they noted

81,434 allusions, 61,000 of which occurred in at least six different periodicals or years. They arranged all these in order and found exactly which ones had the greatest frequency of occurrence.

Some amusing combinations were found. J. P. Morgan and Queen Elizabeth were of equal importance. So were Benjamin Franklin and Babylon. John Ruskin, Samuel Gompers, and Aristotle formed a trio near the middle of the list. Samuel Johnson and King Solomon ranked together. So did Bengal, Central Park, and Mendelssohn. Coney Island was as valuable as Pharaoh; Charlemagne and the Waldorf Astoria made a pleasing couple, and Champ Clark received as many allusions as the Apostle Paul.

Many of these incongruities disappeared when the list was separated into its proper time periods. That Roosevelt should outrank all other contemporary men was not surprising, nor that New York City should outrank all cities in frequency of occurrence in American periodicals. Neither was it surprising to find that the man living in ancient times most frequently alluded to was Christ, and the one who received the next highest score was Julius Cæsar.

On the whole the list was very illuminating. It was found, for example, that Augustus Cæsar, Ponce de Leon, De Soto, Antietam, Bull Run and

Shenandoah occur in most children's history text books, but had no place on the list. On the other hand, Byzantium, Buddha, Confucius, Plato, Homer, the Celts, Mecca, and Bagdad occur in few or none of the elementary school textbooks that are supposed to cover the periods in which they were important, yet rank high enough on the list to justify a very considerable emphasis.

The findings meant re-writing elementary school history in terms of practical usefulness. In this the Winnetka authorities were aided by the Commonwealth Fund of New York, which came to their rescue in the midst of the historical research by giving them enough money to put a full time worker and clerk on the tabulation of results, and to start them on their way to the incorporation of these results in a satisfactory course of study.

Having discovered the facts, the next problem was to include them in study-material which would be both interesting and accurate. An elaborate bookkeeping system made it possible to tell which parts of written material were readily grasped by children and which parts they were unable to understand. By revising material on the basis of these data, it was possible to produce much more readable history and geography for the children than that contained in older textbooks.

For example, here is a paragraph from a good ordinary history text:

"The Northern men were Teutonic, like the English; and like the ancestors of the English, they were great pirates and sea-rovers. In the time of Charlemagne they began to swarm forth from their northern homes and overrun all western Europe. In France, after repeated attacks throughout the ninth century, they at last settled down in a large district about the mouth of the River Seine, which was given them by the French King."

And here is the equivalent from the work done in Winnetka as the result of the investigations:

"Once in a while, Norsemen made long trading voyages to other countries. Most of the time, however, they were just pirates. In the spring-time they hauled their longboats out of the winter sheds, and launched them in the waters of the narrow bays. They loaded the ships with food and fighting men, and away they sailed. Sometimes one ship went alone, but more often they went in fleets of ten or twenty ships, all sailing together.

"The Norsemen sailed to England, to Ireland and to northern France. When the people saw them coming, they usually fled away in terror, for they were afraid of the Vikings. The Viking longships ran up on the shore near some town or monastery. The warriors climbed out, and set off with

their long swords, their battle axes and their shields. They killed most of the people that they met. Sometimes they took strong young men or women as prisoners, to be used as slaves. They robbed the monasteries, and the churches. They took whatever they liked—gold, silver, jewelry, swords and cloth. Then they loaded their ships and sailed back to their homes in the bays of Scandinavia."

The difference in simplicity of language, and in interest, is evident.

History for Citizenship

The Winnetka teachers have been glad, too, to participate in the research of others—to make theirs one of many coöperating school systems. They have, for example, coöperated with Rugg.

Harold Rugg of Teachers College, Columbia University, already referred to as one of the advisors called in on curriculum construction by Superintendent Newlon of the Denver public schools, has been engaged for years in a somewhat similar, though more extensive, investigation that has had for its object the teaching of those facts and principles in history, geography, economics, and civics necessary for an intelligent attack upon the problems confronting American citizens to-day.

Rugg is doing for the junior high school what the Winnetka social studies pamphlets are attempting to do for the elementary grades—to teach, in one coördinated course, the vital facts of the history of mankind on this earth. Geography and economic considerations play their part in influencing this history. The whole, based on research and experimental teaching, is presented through vivid episodes and, in Winnetka, is made the basis for a wide range of group and creative activities which have as their purpose the developing of a social consciousness on the part of the child.

The Rugg Social Science Pamphlets are still in experimental form, being tried out by several hundred schools, in an effort to discover just what work of a comprehensive order, in understanding and solving modern-day civic problems, junior high school children are capable of doing. Rugg has at least secured the children's interest—as is evident from the following:

One spring the seventh and eighth grade children in Winnetka had a banquet for the basketball team. Enthusiasm ran high, and cheers were given for the basketball stars, the athletic coach, and popular teachers. Suddenly one of the boys proposed nine rahs for Rugg. They were given lustily.

It must have been about the first time that children have ever spontaneously cheered the author of a school textbook!

Since that Winnetka demonstration, the Rugg Social Science Pamphlets have been re-written something like three times, with a total of some three hundred school systems coöperating in the experimental work of trying out the tentative forms. Already "Social Science" appears to be in a fair way to displace permanently the old-style teaching of history and geography as separate and almost unrelated subjects.

It is Rugg's belief that his consolidation of the three subjects, civics, geography, and history, in a single course of social science is merely the first of several such steps that will be taken in the immediate future. Preliminary courses in foreign languages, for example, are already beginning to be combined and grouped under a single head, while first courses in the sciences have been so combined for over a decade. The same is true of junior high school mathematics, where some algebra, geometry, and even trigonometry are combined in an introductory course in "general mathematics."

From these few instances it is possible to see how much progress has been made during the past decade, in the scientific investigations being under-

taken to determine accurately what to teach children. A new science, the science of education, is taking the place of the old dogmatic pedagogy.

What has been done so far is little enough compared to the needs. But a beginning has been made. Already the leaders are doing away with some of the worst of the traditional mistakes. Before long we should be able to decide fairly intelligently, instead of by guess-work, what we should teach.

CHAPTER II

Teaching the Meaning of Civilization

We think of schools as places where reading, writing, and arithmetic are taught, with a few other things often classified as frills. We feel that most of our own education came from contacts with the world, rather than from schools. Therefore we expect little more from the schools our children attend than we ourselves received a generation ago.

A new condition, however, has arisen. Universal literacy is a dangerous thing if it is not combined with a knowledge of how to use it for the welfare of all. When one newspaper publisher can reach 16,000,000 people each day, his power is almost limitless. His readers must know how to check the statements they read. They must be able to think for themselves. Instead of being swayed blindly by the printed page, they must be able to think and act independently.

In Babylon there was universal education. All people knew how to read and write and figure. The fact provided no safeguard against the obliteration of that great civilization. Our one safe-

guard consists in developing what Franklin Bobbitt of the University of Chicago calls "the large-group consciousness."

Bobbitt analyzes the virtues of men into two sets, those to be exercised toward the members of his own group and those to be exercised toward outsiders. Among friends murder is a crime, but it is an honorable deed to kill the enemy of one's nation. Within one's own group, treachery is a crime, but successful spying on the enemy is heroism. To protect from harm a member of one's own group is a virtue, but to harbor an enemy is treason. Bobbitt shows that at first social groups were small and each tribe exercised the intra-group virtues toward its members, the extra group virtues toward its enemies. With the growth of mankind has come the enlargement of the group, until now, in certain big dealings with other people, 48 states with a population well over 100,000,000 count themselves as one group. When the whole world regards itself as one group, says Bobbitt, we shall come to the end of international crime.

What are American public schools doing to satisfy the demands of our fast growing interdependence? The schools have a great leverage on civilization. Mankind of to-morrow is in the schools of to-day. Advanced thinkers do not want to let humanity drift aimlessly into to-morrow's problems.

This is the chief reason for the Rugg Social Science Pamphlets already referred to in the previous chapter. History has a function far more important than merely that of giving children a knowledge of facts to which frequent reference is made in books and magazines and newspapers. This function is the training of children to solve present-day problems in terms of the past experience of the race. Rugg has been attempting to find out what problems are confronting us in America and how children may be trained to solve them. He made a careful investigation of the problems included in 140 books published since the war on economics, social, and industrial questions. He then searched through a wide range of historical material to find out what history would throw light on these problems. The idea in all this was to shape a course that would help school children know and understand the complexities and interdependence of modern civilization.

Here is the way that Studebaker of the Des Moines schools regards the problem:

"Reading and writing and arithmetic will be learned sooner or later, by practically every school child, in one way or another, to at least a reasonable degree; but what then? What will a child do with this knowledge, when he has it? Will he know how to read a newspaper intelligently? Will

he make a good citizen? Will he possess the ideals and attitudes as well as the skills and knowledge that will make him a valuable asset to society? Will he have the equipment with which to turn in on the rushing current of modern life and understand it?"

To give students an ability and point of view that will enable them to develop into valuable, well-balanced citizens, nearly every one of the more progressive school systems has devised its own technique.

Making Citizens of Backwoods Immigrants

Through the greater part of the Middle West, even in some backwoods sections of Wisconsin and Minnesota, such as those under Barnes in St. Louis County, project work of a nature calculated to develop certain phases of social consciousness and understanding has begun to be employed. To be sure, Barnes' schools are only small country schools. The children are little Finns and Hungarians that see, at home, nothing as fine even as the unpretentious outlying schools. Compared to the big city schools, or country schools in prosperous districts, the little outlying schools seem trifling enough. But comparing many of them with what could be found a few years ago, a big gain in the development of social consciousness is evident. It

is shown in winter "Americanization" classes for Finnish parents, held for ten weeks, two evenings a week, in the schools of St. Louis County, referred to in earlier chapters. The Finns tramp in for miles to attend them.

Go up to any one of the trees that have been set out in the new cleared land around the later school buildings. Tied to the top of it is a tag, with a name on it—"John Fels." John Fels has undertaken to water and care for that tree faithfully, until it no longer needs him. He may be only a round-headed, close-cropped little first-grader, with suspenders over his flannel shirt. Hardly old enough yet to know what it's all about —with his sing-song Baltic reading accent—he is proud to be caring for a tree that is to shelter children to come. He is learning to be a good American, learning to have an interest in, and to care for, the welfare of school generations to come.

St. Louis County project work, as is the case with many Middle West county associations, is in charge of a county agent working under both the superintendent of schools and the state agricultural station. County project clubs take in 1500 children—one out of every four in the outlying districts. Each project worker undertakes to do some particular piece of work—raise a calf, or put in and carry on a garden, or raise chickens.

There is county-wide competition, with prizes for the winners. In some localities, youngsters, through the influence of the project work, have already prevailed upon their parents to bring in thoroughbred stock. At a recent county school contest, sixty school sewing clubs, seven bread-making teams, eighteen individual bread-bakers, half of them boys, competed: also, two cake-baking teams. Some of the contestants had to be hauled more than 125 miles—a 250-mile round trip—in the school automobiles.

To be sure there is a big gap between these simpler "county project" schemes and the development of full civic consciousness. But they are a step. And whenever individual teachers have the social vision to make the most of the opportunities that such "projects" afford, good results are obtained.

In practically every field of subject matter taught in our schools, there are two types of teachers, representing two types of mind. One of these is the inquiring mind that is continually checking up on what it has done to see if it was valid, in order to make the progress that new learning in any field is supposed to bring about. The other type of mind has become habituated to practices which were the best that could be applied to it at one time, but which are now obsolete. If undisturbed,

this latter type continues the teaching of obsolete materials in ineffective ways without ever suspecting that anything is wrong.

These two types of mind are found in every school system. But notwithstanding the force of traditional methods and subject matter, many teachers who have been proceeding from the purely traditional point of view change their minds when brought into contact with more progressive ideas. This is as typical of work in the science of social relations as in other fields. Persons who thought they could not tolerate certain new ideas in curriculum construction sometimes become enthusiastic supporters of these same ideas after having been given an opportunity to see how they can be utilized.

The School as a Community

At Rochester, New York, there is a fine example of how the "inquiring mind" type of teacher has been able to find opportunity for the development of social consciousness through the utilization of the school organization itself, in matters of discipline and deportment and care of the school buildings and equipment.

Almost everywhere, in the Rochester schools, there is a comfortable informality and lack of conventional discipline. That is true even in the

classroom where formal subjects still are taught, as in the regular classes in English and arithmetic. In a certain Latin class, you may find one-third of the pupils standing up or moving around, with several conversations going on at once. Sometimes when a teacher finishes writing something on the blackboard, she has to clap her hands for order, so she can be heard. But no one seems to mind the disorder particularly, and it is easy to see that real work is being done. The talk is all about Latin—not sweaters or dances or baseball. Even visitors are hardly noticed, so intent are most of the students on the work in hand.

"We try to make our boys and girls realize that this is their school," is the way one of the Rochester principals puts it. "It is all for them. We consider ourselves a community of three parts—scholars, teachers, and the janitors who have to clean up and look out for the buildings. We are all dependent on each other. And everyone has a vote in all our affairs. Discipline? Mere restraint isn't discipline! Watch our children when they *leave* the schoolhouse, and compare them with a crowd coming out of a schoolhouse where there has been the kind of discipline that is really only repression!"

Student self-government is another step that has been taken with good effect in several of the more progressive school centers. At the East Technical

High School of Cleveland, for example, there is an excellent illustration of how well even partial self-government works out in the matter of developing civic consciousness and the sense of social responsibility. They have evolved, without any particular regard for the form of government, a splendid spirit of student participation in school administration, and a fine self-discipline. Pittsburgh, Chicago, Oklahoma City, Philadelphia, New York, and several other cities, each has a school that has tried "student government" and found it worth while. But perhaps as striking an example as any of the effectiveness of self-government in developing the social sense, in its civic aspects, is to be found at the high school of Holland, Michigan.

Holland has a high school that runs itself. That is, as far as student discipline and coöperation are concerned. The students themselves elect officers who have charge of all matters touching student activities and conduct, outside of the regular teaching work. In the flat, prosperous farm lands of southern Michigan, they are learning the science of social relations by active participation in the exercise of authority.

For nearly fifteen years they have been experimenting with "student government," until it is an experiment no longer. It is a part of Holland. Holland youngsters get into the habits, into the

harness, as it were, of citizenship sooner than elsewhere. Instead of waiting until they are twenty-one, and crowded with all the details of getting an increase in salary and keeping dates with a girl, they are initiated into democracy at the doors of the high school, and get into the voting habit while all their other habits are still in process of formation.

The Holland High School patterns its form of government after that of the American city. There is a mayor, a chief of police, and twelve aldermen—two from each of the six wards. The mayor presides at the council meetings and standing committees are selected from among the aldermen.

The mayor and aldermen are elected. But the chief of police, almost as important as the mayor himself, because on him rests the full responsibility for the school behavior, is appointed. One of the school stories tells how, after one of the early elections, the successful candidate appointed his brilliant rival, whom he had just defeated at the polls, as chief of police—because he was the best man for the job. That magnanimous action has become part of the school tradition.

In the big rectangular assembly hall of the school, which has desks for the entire student body, you can find, during a study period, perhaps two hundred students working at their lessons. At a

high desk on the platform in front of the room sits a serious-minded young senior, watching the long array of desks before him as though his honor depended upon the order maintained in the hall. He is the chief of police. He does not always preside in person; more frequently he delegates the work to one of his deputies or assistants. There is hardly the motion of a hand or foot in the studious room before him. It would be safer to take a chance on "communicating" right in front of the worst-tempered teacher you ever heard of than under the lynx-eyed scrutiny of that young "chief of police." He is on his toes to maintain the honor of the school and intercept even a sidelong glance!

Three things the school authorities consider accomplished by the Holland school government.

First, the whole government plan is in itself a very effective form of project work, in which the entire school participates. Without entirely realizing how much they are absorbing, the students learn coöperation to a definite end. All sorts of school improvements have been planned and secured by the students themselves, financed out of the "government" funds. Five new tennis courts have been added to the school athletic equipment; the grounds have been beautified; improvements and decorations have been planned for the rooms

of the main buildings, and presented to the school. Athletics have furnished a good share of the student-government income; various money-raising activities, well supported by the town, have added more. Plays and other evening entertainments have netted, from time to time, a good revenue. And it is all part of the coöperative effort in which each participant, each freshman or junior in the ranks, is playing his share and learning his part.

Second, the students themselves become part of the school machinery. They take a different and a more definite interest in the school than is ordinarily the case elsewhere. It is more *their* school. They help to run it. Their allegiance is deeper. They are stimulated to greater effort, to greater loyalty, than would be the case if they merely came and went at the beck and call of teachers.

Third—and this last point is the one that receives the greatest emphasis—they get training in citizenship. They receive a baptism of democracy. They leave the school better able, and more willing, to take up the burdens and responsibilities of a voter than would be the case without that four years of governmental training.

The organization of the student body is simple. There are fourteen long rows of desks in the great assembly hall. Seniors sit at the back of the room, freshmen across the front. Each student keeps his

assembly hall seat throughout the year. The "wards" are made by taking two and a third of the long assembly hall rows.

Elections are held in the spring. Nominations for mayor, aldermen, and the other officers are made from the floor of the assembly hall on "nominating day." Caucuses have usually been held preceding the nominations, but new names can be added from the floor.

Then follows "campaign week." The town shows as much interest as in the Holland city elections themselves. Everybody takes sides. At the end of the week come the elections, and the excitement is over for another year. The school settles back into the routine of running itself.

Talk with the present mayor—a clear-eyed rather lanky chap, with a slightly receding chin. Serious, but with a good grin in him. You would rather expect him to take high rank in his studies, but that is hardly more than an impression. Ask him a question:

"How did you get the election? Popularity?"

He disclaims the idea. "I guess we made a better campaign," he decides. Then he grins and becomes a bit more confidential.

"It wasn't so much our campaign as the other fellow's. He didn't plan things right. I thought all along we'd get it. We had a big rally at the

end of the week. Hired a band and everything. That's what counts—a big smash right at the last. That gets the freshmen. You can usually get the election here at Holland if you can swing the freshmen. The freshmen and the seniors do it. If you get the seniors gradually—line 'em up one at a time—you can count on winning by stampeding the freshmen at the last minute. So that's what we did." He grins again, somewhat apologetically. "We won nearly two to one."

Practical politics? It certainly sounds like it!

Of course, "student government" is only a name. In a sense it is misleading, for there never can be a complete "student government" as long as there are school teachers and school authorities. The real government, in the very nature of things, rests with them, and always has to. But they can delegate a portion of their authority to the students themselves. As at Holland, they can even delegate a very considerable amount of it.

Behind the Holland High School is E. E. Fell, superintendent of schools. A rather heavy-set, quiet, kindly man. The first impression of him is one of strength, of almost grim firmness; the next is one of friendliness. He is obviously a leader in the town, calling on the leading business men for this or that at will—"Jim, I want you to come around to the school to-morrow night." And Jim

does. Almost without exception, somewhere behind a fine school system, behind any school advance, you find a strong superintendent or principal or other personality, either as the cause of it or as the result.

The degree of discipline maintained by the students is remarkable. The quiet and order in the assembly room is so great that it amounts almost to unnecessary restraint. Fell admits that there is, if anything, too much discipline rather than too little.

"The students are harder on each other than we would dare to be on them," he says. "As we get older, we get more tolerant, I guess."

He tells of an incident that occurred some years ago. There had been stealing from the locker rooms; one of the few instances of anything of the kind in the history of the school. It persisted. No one could give any clew as to the culprit. Finally the mayor and chief of police, without taking anyone else into their confidence, turned detective. They made a "blind" in the locker room, and took turns watching. For three different days their vigil was unavailing. But on the fourth try they had better luck. They caught one of their schoolmates, red handed. There was nothing for him to do but "come clean," with a full confession.

In serious disciplinary cases the matter is taken

up by the mayor, the chief of police, and the principal of the school. Both the mayor and the chief, in this instance, were all for the severest penalty. They wanted the thief expelled. But the principal saw extenuating circumstances. He believed the prisoner would go straight if given another chance. He believed he had received his lesson, in getting caught, and that the disgrace of expulsion would cut off his chance of getting back on his feet, and instead send him on the downward road.

Finally the mayor and the chief gave in—part way. They would waive the expulsion. But as a compromise, the prisoner would have to make a public confession, before the whole school, and promise to "go straight" in the future, if he wanted to remain in the student community.

The principal gave in. He didn't want to, but he was in the minority—and the students were, after all, being given real and not merely nominal authority. So they went ahead and staged the confession in the assembly hall, in front of the whole school. According to the account, it was a rather heart-rending ordeal, with the culprit breaking down, and girls all over the assembly room crying with him. But the lad "went straight."

"We've nearly always had good mayors," Fell says. "Bad politics, grown-up politics, have only got in once or twice."

Of these occasions he gives the following explanation:

"Holland is a democratic town. They say that if you want to be elected mayor of Holland—the city, not the high school—you have to wear overalls. The town is down on rich men. A couple of times that has crept into the school elections, and really good candidates were defeated because they happened to be rich men's sons. Their opponents, who were not so good, used it against them."

Human nature is still human nature, even in a high school.

Of Holland High's former mayors, only one has failed to go on to college. Nearly half have become president of their college classes. They have had training in leadership. They have learned the ropes. Of those who have gone out into life, each has made a good record in civic activities. The third mayor, for instance, a lawyer, has formed an athletic club in the city where he lives, and has inaugurated a successful movement for city playgrounds.

Some of us would seriously question the desirability of letting student government go as far as it does in Holland, Michigan, particularly in the matter of inflicting penalties, where careful, trained psychological insight is needed, rather than mere punishment of culprits. And student politics

may resemble too closely politics as they are, rather than as they should be. But whether or not the whole Holland experiment, with its rigid self-imposed discipline, can be approved, there is no doubt as to the value of its training in civic consciousness.

Social Consciousness Through Group Activities

A deliberate effort is being made in Winnetka to develop social consciousness in children. Half of each morning and half of each afternoon are given over to group and creative activities. These activities are not marked, they are not for the purpose of teaching knowledges and skills—those are handled by the Individual Technique in the other parts of the day—they do not affect the pupil's progress. Their sole purposes are the development of individuality and training in social consciousness.

To make this point of view more concrete, let us take some of the group activities of the Winnetka public schools.

A number of eight-year-old children have been reading and talking about the Vikings. The facts necessary for the intelligent understanding of references to Vikings in current literature, or for any other similar purpose, are few. Some reading, some map work, some pictures, suffice in a short

time to teach children who the Vikings were, what sort of people they were, where they lived, how the geography of their country affected their character and their activities, how they in turn affected the history of northern Europe. Detailed knowledge in this field is not necessary or important for the average school child. The few things he will really need to know about the Vikings and their country can be readily and happily learned in a fairly rich setting in two or three weeks' time. But the teaching of these facts, the discussion of the lives and habits of Vikings, have aroused the interest of this particular eight-year-old Winnetka group. The Viking feast-hall and feast catch their imagination. Someone suggests that they make a feast-hall. Another suggests that instead of building such a hall they transform their whole schoolroom into one. Suggestions fly thick and fast. There are vigorous discussions. Each child's mind begins working independently toward the common purpose of making the classroom into a Viking feast-hall. One suggests a throne for the king and queen. Another says they should have feasting tables. Another remembers the shields and swords that Vikings would be carrying—another the costumes they would be wearing—another the need for a Viking boat.

The teacher enters into the discussion and the

activities. She reads extensively herself to be able to answer the questions poured out by the children. She makes suggestions but is careful to stimulate rather than dominate the group. Here is a group enterprise of the children's own choosing. For weeks their minds and hands are busy with the problem of transforming their classroom into a feast-hall of the Vikings. Some go down to the lumber yards and succeed in borrowing lumber to construct the feast tables. They can get it by agreeing not to drive nails in it. Each child makes himself a shield, with his own original design. The art supervisor comes in here, and discusses with the children the kinds of designs the Vikings used and how they can get Viking effects. The supervisor of music utilizes the interest in Vikings to teach the children some old Norse folksongs. The playground director teaches them Norse folk-dances and Viking games.

When the feast-hall is completed there is a feast. Everyone has to be dressed for it. Costumes are made. The meal is planned, the children reading wherever they can find information. Guests are invited—the principal, the music, art and playground directors, the superintendent of schools and one or two parents who have been helping with the costumes and will help with the food.

Therefore there must be a little program, some Viking stories, a song and a dance.

It is the day of the feast. All desks have been cleared out of the room. In their place are the long feasting tables and crude benches. At each end of the room is a throne covered with a canopy backed and flanked with tapestries—original productions of the eight-year-old children, but with the Viking feeling. Against the side of the wall lies the Viking boat. There is straw on the floor, and several dogs lie about. Each Viking comes in his costume, bearing his shield which he hangs on a hook. The guests, too, are arrayed in Viking costumes. Mutton stewed with mint is passed around in large wooden bowls from which each Viking helps himself with his fingers. The bones are thrown to the dogs on the floor. Coarse bread and fresh strawberries are parts of the feast. Then comes the mead. One of the children has a father who works in the stockyards in Chicago. The child has persuaded him to bring home three or four dozen steer horns. The children have painted designs on these horns and lined each with a paper cup. The mead is a grape juice punch, and as the children fill their horns and quaff the mead they sing old Norse songs and tell tales of adventure.

Such a project may take as much as three

months from its inception to completion—an amount of time totally disproportionate to the factual knowledge the children may gain. But factual knowledge has not been its primary purpose.

Through those three months every child's imagination has been stimulated. Every child has had an opportunity to develop his own particular abilities, to carry out his own particular desires. Every child has varied from the rest. Every child has created, but all the children have worked together toward a common end. Each has seen how the success of his own labors depends upon the successful work of his fellows. Each has seen how the progress of the group as a whole depends upon each individual's doing his full part, making his own contribution.

Such projects, usually growing out of social science or literature, run through all the grades. Some, of course, are much less elaborate. Perhaps it is a sand-table representation of Arabian life on an oasis. Perhaps it is a little play—worked out without costumes or scenery. Perhaps it is a miniature feudal village, with its castle, moat and drawbridge, its cathedral, and its peasant huts.

But group and creative activities are not confined to these projects. Self-government plays a large part in the Winnetka schools. Practically every

child is on some committee. These committees have different responsibilities, with latitude to carry them out. There is a committee, for example, for beautifying the school grounds. There is one for preparation of playground rules. There is one for the care of bicycles and the regulation of bicycle traffic. One is for organizing the assembly programs. And so on—some twelve or fifteen committees in all. These committees meet each week to discuss their various problems, the children using school time for the meetings. There is a teacher-advisor present, but to a large extent she is in the background, letting the children work out the solutions to their own problems. Important committee discussions are presented in the general assembly, where there is free parliamentary debate under the chairmanship of one of the children.

The playground is one of the training camps for the development of group spirit. The playground movement in America as a whole is doing much for the development of team work and good sportsmanship—both essential ingredients of group consciousness. On the team the child knows that if he does not do his full part the team will lose. He also knows that however well he may play, he will be helpless without the support of his team.

The Winnetka school newspaper is called the "Journalist." It affords another opportunity for a wide variety of group activities. Every child has a chance to write stories, poems and articles for the "Journalist." Those which, owing to space limitations, cannot be published, may be made part of the manuscript classroom journal. Some children may make wood blocks, or designs of zinc plates or stereotypes to illustrate the "Journalist." Others have the responsibility of increasing the circulation; others may solicit advertisements from the local merchants. Others may handle manuscript. Others set type. Still others read proof. Each child is having the stimulus to do original work, to develop his natural variations from his fellows. Each child is doing his part to make a success of the group enterprise.

Knowledge of human conduct, of how people react to different moods and attitudes, knowledge of the values and problems involved in close cooperation, knowledge of authority and its uses, knowledge of the whole complex structure that we are accustomed to call "civilization"—these are some of the things that the more progressive schools are attempting to teach, in addition to the self-control and obedience that were supposedly a part of the old school training through the maintenance of discipline. Instead of children having to

learn all this indispensable knowledge of human relations lying outside the schoolroom, to-day, in such schools as are coöperating with Rugg in social science courses, or in Holland with its successful experiment in student self-government, or in Winnetka, children are given an opportunity to learn something of what they must eventually come to know of these things while they are still under the intelligent guidance of teachers. Again it is true that only a beginning has been made—but even the beginning is worth much. So much, in fact, that the old-line institutions that have failed to make provision in their curriculum for some such teaching, but have instead continued to carry along with only the old traditional classroom subjects, can no longer be considered even respectably adequate.

CHAPTER III

Vocational Guidance

Beginning with the first carpenter and shop-work courses of thirty years ago, a new phase of school activity has been developing from year to year.

From "Sloyd" to Technical High Schools

For a long time the development of this new phase of activity was haphazard. Manual work crept into the schoolroom, for the most part, without formal acceptance or specific plan. It is interesting to note that long before the grade and secondary schools found a place for it, it became a part of the necessary training in technical institutions of collegiate rank—and was also accepted as a valuable phase of kindergarten work. From above and from below it pushed into the schoolrooms between. The training in muscular coördination that kindergarten children got from blocks and crayons and folding paper proved valuable. When "Sloyd" came into the range of the more progressive grade schools in the closing years of the last century, it was seized on eagerly. Woodwork proved fascinating to boys—but was re-

garded by many teachers as only one degree removed from plain recreation. Even in the most advanced schools of that day, only a small proportion of the pupils were given a chance to benefit by it. Then, gradually, the wedge was driven further in. As opportunities developed for boys to study wood-work, classes in cooking and domestic science for girls, were introduced. Year by year the number of new courses increased. From the technical college, the idea of trade-learning was brought down into the high schools. Boys were given a choice—a classical course in high school, or the so-called scientific course. For girls, as commercial work of various kinds—bookkeeping, typewriting, shorthand and all the rest—came more and more into vogue, a similar choice was offered. Automobiles threw even more emphasis on new courses for boys in various phases of machine-shop work.

This development of the hand-work idea has finally resulted in great technical high schools, where, for the children of manual workers, all sorts of trade learning was imparted at the expense of the state. At Indianapolis, for instance, where the city schools were considered outstandingly good a dozen and more years ago, a vast Manual Arts High School was built. Here every conceiv-

able type of machine became available for boys intent on securing specific knowledge that would enable them to step directly into trade positions. Hundreds of thousands of dollars, in such schools as that giant at Indianapolis, went into machinery and elaborate equipment of all kinds.

One of the best examples of the fairly recent development in high schools of this type is the great Cass Technical High School at Detroit. Accommodating some twelve thousand students, it is complete from machine shop to the cafeteria that is run, as is customary in most of the more advanced schools, by the students themselves. Huge forges, rooms for casting and rooms for automobile repair work, lathes, washing machines, and various other appliances, make up its equipment. It is not unlike a great factory, where various departments combine for the final assembling of a single product. A great deal of discussion has arisen in connection with these trade-training plants, as to whether or not they are furthering the best interests of universal education. The answer seems to lie in the statement made above, that until recently their development has been largely haphazard, and relatively unscientific. Only within the last few years has there been any thoroughgoing effort to appraise the educational

efforts in the manual training field, to determine what the province of the public schools really should be.

This analysis has been hastened by the fact that the vogue of the great trade high schools is in a measure passing. It is true that the drift away from classical, and toward so-called "scientific" courses, has been steady and continuous, but this has related, in the main, to general subject matter rather than to trade training. It is also true that in many instances even the most elaborate and expensive equipment has not proved either as popular, or as effective, as had been hoped and expected. At the big Indianapolis school mentioned, for example, not nearly as many students have elected the manual training courses as had been anticipated, so that great machines and factory equipment have never been used to capacity.

In Buffalo, on the other hand, the vocational high school idea is flourishing—indeed it is felt by some that it has reached a higher development in Buffalo than in any other part of the country. Each high school there is specialized for one trade or group of trades. It keeps in intimate touch with the needs of that trade and attempts to fill these needs, even to the extent of recruiting in the elementary schools for more students to enter this particular field. There is close coöperation between

these trade schools and both the big employers and the trade unions.

These schools have academic work too, of course, but it is connected up with the trade training—functional science; mathematics that helps solve real problems.

In Milwaukee there has been for some years a "tough boy" school that has taken over the training of "discipline cases" from the regular classrooms all over the city. Here, it was found, was a field for manual training that threw new light on the subject. Boys who had been rated almost incorrigible in the schoolrooms of the old type would come over to the institution for unduly retarded or unruly cases and, under skillful guidance in courses that gave abundant opportunity for various phases of manual development, would improve splendidly.

This discovery that some children, with the aid of this or that opportunity for manual development, could go ahead far more rapidly and satisfactorily than under straight classroom instruction, was by no means confined to Milwaukee. It had come, in a measure, to teachers in nearly all cities—particularly on the Pacific Coast—where the "intermediate school" idea—a transition school between the early grades and the high school grades—was being tried out. More than

anywhere else it was being carefully developed at Rochester, New York, as a fundamental part of the so-called "junior high school" plan.

Junior High School Where Children Find Themselves

Rochester is a lucky city. In it, through the junior high school idea, practically every child who goes to public school gets a chance, before the school lets go of him, to make good in something that he likes. Tommy Jones may beat Bill Bundy in Latin or Algebra—but Bill can get a fine mark in the electric wiring he is so crazy about.

To-day junior high schools flourish on the Pacific Coast, in the Middle West—in fact, all over the country. That they should flourish to better purpose anywhere in New York State than elsewhere seems incredible, for New York is still handicapped by the centralized state school system that vests authority in a terrifying "Board of Regents." No little girl of three was ever made more afraid of the dark by tales of the Bugaboo that gets you, if you are bad, than are New York children and teachers alike by the dim "Regents," that pass out rules and examination papers for the whole state. Whenever you try to find out why the schools in any prosperous residential suburb of New York are not more up to date, and able to

do more for the children they are supposed to be educating for life, both teachers and principals hastily fall back upon the Board of Regents. They pass the buck to the centralized system that makes progress in one particular school or city supposedly impossible.

So the fact that, at Rochester, junior high schools are as far in advance of junior highs elsewhere, as those other junior highs are ahead of the schools in most of the New York suburbs, is enough to make anybody sit up and take notice.

If any community in the country, or any school superintendent, believes that no worth-while advance is possible because of state or local conditions, because of this handicap or the other, here is Rochester to decry the argument.

Fifteen years ago Rochester calmly threw the crippling "Regents Examinations" out of the window—except for the final years of high school. It meant merely that they promoted children on the recommendations of their own teachers and principals, instead of on their ability to pass the Regents Examinations for particular grades. Of course, if a Rochester pupil moved out of the city to some other New York State school system, it meant that he had to be reclassified on his merits instead of being automatically placed by the number of "Regents" he had so far passed—but that

was all. By retaining the Regents Examinations for the final years of high school even this difficulty was obviated, when it came to a matter of being admitted to college on certificate. Other cities of the state, less daring, were aghast at Rochester's rebellion and have been ever since. But nothing happened—except that Rochester schools began to get better. And kept on getting better. In junior high school development and vocational guidance they are setting the pace for the whole country.

"Before he leaves school, every boy should have his chance." That is the basic idea from which the whole junior high school movement at Rochester has been worked out.

Superintendent H. S. Weet of the Rochester schools is a tall, powerful man, bald, rather impressive, given to pauses and silence, rather than to speech. One of his close associates and assistants says of him: "Weet has a great head and a great heart, and they balance nicely." It is a fine combination for a school superintendent.

"Any youngster who is willing to apply himself," Weet says, "deserves to succeed. At least in *something*. In the Rochester schools we try to teach children how to apply themselves. In the junior high schools, our problem is to find something that they like, that they can do well. Then, before they get away from us, they have a chance

to taste success." It is the same fine educational philosophy that received world-wide attention through H. G. Wells' accounts of Saunderson of Oundle.

On a visit to the Rochester schools we were turned over to pupils, as their guests. Arthur Heath, a small, eager, polite lad of fourteen, took us through the Washington Junior High School, oldest of the junior highs. We put ourselves entirely in his charge. "Show us the rooms where you have taken your own course," we said. "Take us to the things you like best."

He led the way directly to the shops. We found that in this school of seventh, eighth, and ninth grade children, there were classes in millwork, in printing, in typewriting, in commercial art, in repairing automobiles, in music, in electrical wiring, and in a dozen other things, as well as history and science, English and the languages. Arthur's preference was for manual work, preferably something that concerned electricity.

In one room boys were making coal-hods. They laid out the patterns, cut the galvanized iron sheets, bent and soldered the metal, and turned out a good-looking coal-hod. They seemed to be considering it as fun, rather than hard work. There was no teacher particularly in evidence. There appeared to be little formality, or drive. Yet the

work was coming along at a good rate, and they enjoyed it.

In the room where boys were working out problems in electric wiring, one of the older chaps followed our course with Arthur from point to point. When we were about to leave the room, he couldn't hold in any longer. "Did you see that three-way switch we're fixing up?" he demanded, and took us in charge. He had all the pride of possession. You would have thought he had invented the whole room himself, and was personally responsible for it. He took us all around again. Arthur was quite crestfallen. All the time, the teacher of the room was working at a bench off in one corner absorbed in a piece of wiring of his own. He was available, if the boys wanted him —but it was obviously *their* room. He did not even seem conscious of the fact that visitors were present.

Arthur's work had not been all shop work, by any means. He showed us the room where he studied history, and his English room. He was a little shy about taking us to the rooms where his own classmates were, and preferred to guide us to other sections. He had studied a little biology, and a little science. "Oh, we learned a little about stars, for one thing," he explained.

We asked if he knew how far the sun is from

the earth. He knew. "Let's see—about ninety-two million miles, isn't it?" We asked if he knew how fast light travels. He did. "Let's see—about a hundred and eighty-six thousand miles a second, doesn't it?" Many youngsters know something about those things but they do not always learn them at school. More frequently they have to get that kind of general information at home. We asked Arthur if he had ever heard the Latin name of the big red-brown butterfly with black markings—Archippus. That stumped him, but he was immensely interested when we told him the caterpillars ate what, on the Massachusetts coast, we used to call wild carrots. His eager-mindedness recalled a remark the principal made before he turned us over to Arthur: "Curiosity and wonderment should be scientifically developed in school. We try to encourage them."

"We have been trying out our junior high school idea here in Rochester since 1915," Superintendent Weet says. "We've tabulated the results. As elsewhere, we have done away with the break at the end of the eighth grade, without merely substituting another. Our figures show that no more scholars drop out between the ninth and tenth grades—between junior and senior high—than at the end of freshman year in the ordinary high school. We use the junior high school

to keep the average child in school longer, and try to use his time advantageously. Our particular aim is to give him a chance to try different things —to let him find out for himself what he likes and can do well."

It was after Weet had visited the Pacific Coast, nearly twenty years ago, and had seen the new "intermediate" schools developing there, that he saw in the junior high idea a chance to work out some of his pet theories. From a purely academic separation of grades into the new six-three-three grouping, in place of the old grammar school eight and high school four, he conceived an entirely new and distinct type of school, that would take children of a characteristic age, twelve to fifteen, and give them three experimental years to find out what they were best fitted to do.

Through the seventh grade—the first year of junior high—Rochester children are closely watched. Careful records are made of their likes and dislikes, their abilities and disabilities. It is not a question of regimental averages, but of the particular record and need of *each individual child.* Then, at the beginning of the eighth grade, each youngster is given a chance to take up the course that will suit him best. In making this selection, the home room teacher recommends what, in her estimation, is the proper course. The vocational-

work teacher makes his recommendation. The lad's parents fill in a long form, giving their own ideas of what their boy can do best, and what they plan for him for the future. Finally, the boy himself has a chance to state his preference, and to go on record with a lot of other things besides—what books or magazines he likes to read—what studies he has liked best—which have been hardest—and so on. From all these a decision is made as to where he will best fit in. In unusual cases the psychology department is called in as well, to give whatever additional light they can shed on the subject. And even after a choice has been thus carefully made, changes are provided for if it develops later that something else might have been better.

Every year some three thousand children—one out of every twenty—come in for individual psychological tests and observations, in the conscientious effort that the Rochester schools are making to see that *each child* in the whole system gets *the thing that best suits his particular need.*

One of the lads, who through this careful recording and analyzing was shifted to a pre-vocational school of subnormal boys unable to finish the grades, learned printing. To-day, three years after leaving school, he is foreman in an important concern, with fourteen men under him. Even

though he was far below average mentally, the Rochester school system was able to shift him around until it found a niche where he could "find himself"—where he could do the work he liked and was best fitted for, and succeed.

Double promotion is possible in Rochester for children so far above average that they can effectively skip a year.

New textbooks have been written by the Rochester teachers in nearly every subject, to fit the new junior high requirements. "Between twelve and fifteen we don't want merely to teach algebra," Weet explains. "We want to develop a mathematical sense. So we had to work out a new algebra textbook that would accomplish our particular purpose.

"When we put in the first junior high, it took the overflow from several crowded grammar schools of the old eighth grade variety." He pointed them out on a city map, and then indicated the central junior high that had made the erection of additional grammar schools unnecessary. "It not only took care of the overflow—*it could do what the other schools could not do.* It gave us a chance for vocational selection. We have in the junior a school where we can meet new problems in the most economic way."

Between and below the two great types of mod-

ern high school—the academic or classical, and the technical or vocational—stands the junior high, determining in which direction each scholar can best develop and giving each his chance. Studebaker of Des Moines, who has incorporated the Rochester interpretation of the Junior High School into his system with good effect, carries the idea along still further. Here is the way he puts it:

"Should a youngster start in to learn plumbing, say, as soon as he has finished the eighth grade—learning a trade that will support him, but learning it before he has had a chance first to develop further, and find out whether or not he is going to make a better plumber than anything else? I think not."

He has elaborated a course that he calls "household mechanics." In "household mechanics" a youngster learns how to lay a carpet, cut a new door through a partition, put up a clothesline, repair a leaky faucet. He gets a bird's-eye view of half a dozen different trades, at the same time that he's acquiring a practical knowledge that will be of use to him as a householder.

"Industrial arts" is another new course that Studebaker lays stress on. In "industrial arts" children get an idea of the correlation of different branches of knowledge—they get a chance to put-

ter with modeling clay in connection with Greek history. They learn something of carpentry, perhaps, while being taught the rudiments of construction and architecture.

Neither of these courses originated with Studebaker. Both are found here and there, in progressive schools, as part of the movement for better education that is making itself felt all over the country. But Studebaker has elaborated and emphasized them to serve his purpose of providing the wholesome atmosphere necessary to make a well-developed, well-posted, all-around youngster of each child in his school system. Like most of the leaders of the present educational advance, Studebaker works less with general theories than with specific aims, seeing each child as a separate problem. In many schools throughout the world where efforts are made to meet individual needs, Studebaker arithmetic tests are in use to-day. With his emphasis upon complete development, he stresses not so much the method as the result—not so much how they get there as where they are going.

Discovering the Bent of College Students

Still another phase of vocational guidance has been worked out at the College of Engineering and Commerce of the University of Cincinnati, where under Dean Herman Schneider as already men-

tioned, the "coöperative" system of alternating study and day-labor periods first came into existence. The coöperative plan as a whole will be worth going into in more detail later; at this point it is interesting to note that the coöperation department has the responsibility of seeing that each student, when off the campus in the day-labor periods, is doing work for which he is fitted. It is a carrying-on of the vocational guidance idea into the collegiate field, and in its smooth and effective working out has many angles that might well be utilized in secondary schools. Just as in such progressive junior high schools as those at Rochester, New York, students are diagnosed and steered toward this course or that, so in the coöperation department they are watched at their work, analyzed by means of a carefully worked out system of notations and reports, and shifted whenever advisable to other work to which they may be better suited.

Fatigue is one of the things that is closely watched. Members of the department have found that it gives a good clew as to whether or not work is congenial. A college boy will tire far more quickly on work that is distasteful to him than on work for which he is well fitted—even when he is doing something that he himself has chosen, and that he thinks he can do well. It is claimed,

for example, that there are mental types and manual types; one man enjoys designing machinery, while another likes to run machines. Put the designer at oiling or repairing, and he tires far more quickly than would his manual-type companion; reverse the positions, and the manual chap is bored to death trying to figure out the intricacies of stresses and power.

Another classification is based upon the roving type, as opposed to the sedentary. One boy will nearly go crazy if asked to sit and read a book all day; another, of the sedentary type, asks for nothing better, and will rejoice in such occupation. Conceivably the divergence goes far back in their ancestry, perhaps even to the race from which they sprang. One may have descended from a nomadic tribe, or from hunters—the other from a valley-race that settled down to tilling the soil thousands of years ago.

Still another of the interesting Cincinnati classifications is that of leader and follower. Some boys, they find, can accept orders only with difficulty. Left to their own devices, they forge ahead rapidly, acting with independence and energy. Under strict orders, or constantly interfered with, they become almost unmanageable and do poor work. Others will show exactly opposite tendencies: under orders they will do well, and be perfectly

contented, but put on their own responsibility they worry and fret, lose time and waste effort.

In accordance with the various coöperation department findings, freshmen, and to some extent sophomores, are advised to try this or that type of work, or shifted about in an effort to find something for which they are better fitted.

One of the prize stories, strictly true but of several years back, is of a red-headed freshman who did rather poorly at one job after another. He was classified as a "mental" or "research" type, rather than a "manual" worker, and patiently shifted along. Presently it was suggested to him that he take one of the electrical shop jobs, where the work was largely with new devices for electrical use. He did not seem much better fitted there than elsewhere, but after working for some weeks he wanted to know, during one of his periods on the campus, why there was no better electrical meter manufactured. It seemed like something of a joke for a green freshman, who had been able to do well at nothing, to complain about electrical meters. But Dean Schneider was interested in finding out where the lad's natural inclinations and aptitudes really lay. So he told him to go ahead and design a better meter if he thought he'd like to try. The boy did. He finally submitted a design for what seemed to him to be an improvement.

Moreover it *was* an improvement. A patent was secured for it and one of the big electrical manufacturing concerns paid him $100,000 for the rights while he was still a member of the freshman class.

What Schneider has done at Cincinnati, Arthur Morgan has done at Antioch. Here liberal arts students get a chance to try out one vocation after another on the coöperative plan, usually one type of work each year for the six years of their college course, until they find their field. The stumbling around in search of a vocation so common among college graduates generally, is not characteristic of Antioch graduates. Neither do they step from a college unconnected with life into life itself—their college work is intimately connected with the outside world through actual contacts with some one hundred eighty industries in which Antioch students—both men and women—work alternate five weeks throughout their college life.

In this vocational guidance work, that has developed in the more progressive schools during the last quarter of a century, out of the chaotic manual-arts side of school work, the question has come to be: How can we best assist this child to learn about himself while he is still under our guidance, so that he can know something of his real capabilities, and the work they fit him for,

before school lets go of him? It is a colossal two-fold job, helping children to find out where their best interests lie, and giving them an inkling of the kind of work and life these interests can lead them into—so that they may later avoid the tragedy of finding themselves square pegs in round holes.

CHAPTER IV

Connecting the Classroom with Life

THERE is still another field in which advanced schools are attempting, in their curriculum building and choice of subject material, to break away from the traditional inadequacies of the older institutions. That is in gearing knowledge to the actual activities of life outside school.

This is neither social science, nor vocational guidance. Though related to both, it is distinct from either. It concerns the putting of knowledge to actual use—the transfer of "book learnin'" from the brain cells of memory to the finger-tips of daily experience.

In part, to be sure, this attempt concerns the problem of *how* to teach, rather than *what* to teach. But in part it is a choice-of-material problem also, seriously affecting the work of progressive schools. It leads to the elimination of courses that have no bearing on the life of the child, not because they will prove relatively useless to him in later life, as perhaps advanced arithmetic, but because there is no way of transferring them into the actual experience that works for further de-

velopment. It substitutes more of the type of study and work in which the child himself can actually participate, muscularly and emotionally as well as mentally, for the study that is related only to the printed page.

At Los Angeles, California, Arthur H. Sutherland was for several years in charge of the experimental and psychology department of the city public school system. To direct attention to the sharp deficiencies of many school courses in these matters he adopted the terms "horizontal" and "vertical" ability. Horizontal ability he defines as the accumulating of book knowledge or other second-hand information that has never been incorporated into the actual experience of a child. Reading about the care or operation of an automobile, for example, will give only "horizontal" ability. "Vertical" ability, on the other hand, comes from actually doing things, so that the muscular and sensory activities of the brain are also, to a far greater extent, called into play. Getting behind the wheel of an automobile, learning how hard or easy it is to steer the car when it is moving or standing still, learning the "feel" of the gear-shift lever and shifting gears, finding out how the foot moves to apply the brakes, how the clutch-pedal and gear-shift have to be worked simultaneously—these things give "vertical" ability. By

actual experience, and actual experience only, can horizontal ability be translated into vertical.

"Work-Study-Play"

It is to no small extent due to the unconscious need and demand for the inclusion of more "vertical ability" courses in the curriculum that manual arts opportunities came into existence. Demand for the same thing was doubtless in the mind of William Wirt of Gary, when he began to experiment some twenty-five years ago.

"When I started out," Wirt says, "I figured that cities were no places for children to grow up in. Cities have developed for grown people. Grown people can stand them. But children—that's different. They're entitled to a start, at least. In cities they don't have a fair show. I tried to figure out a way to have a city for children—a city within the city, just for children. So I worked out my plan—I like to call it the 'work-study-play' method. We see that children get all three. That's why they like it. It's not all study—we have no more hours of study, of reading and writing and arithmetic, than ordinary schools. But from study we turn to shop work or play, and from play we turn to shop work or study. That lets children live more nearly a complete life during school hours, instead of only a part of one."

To round out his "city within a city" he brought in a chance for each child to use his muscles in play and work, constructing wading-pools in the playgrounds, and putting in wood-working courses for the boys and domestic science courses for the girls, so that they couldn't any longer, in his schools at least, become merely little bookworms.

Like the first steps that led toward vocational guidance, all this was largely an instinctive and relatively unscientific reaching out to satisfy a new need that had fallen upon the public schools of big cities. It was to give a training that would do for children what work and play in the open had done for their fathers and mothers in the days of the little red schoolhouse. Schneider, at the University of Cincinnati, by sending his College of Engineering boys out to hold down regular jobs every other week or so, was responding to the same need. By alternating study and day-labor periods he was, in effect, bringing the railroad and the factory to the campus, and allowing his students to transform their book learning into actual experience.

Taking the School to the Farmer

From an entirely different quarter a still greater influence has been brought to bear on this problem of turning horizontal ability into vertical ability,

of discarding sterile courses for fertile courses, of tying class-room study and the conditions and experiences of life outside the schoolhouse walls more closely together. It is rather a long story, and it goes back more than fifty years, but since its full significance and bearing on the whole system of education has been almost entirely unremarked, it is well worth telling.

To begin with, we have to leave the secondary schools for a while, and go back to the field of "higher education" of more than a half a century ago, when by the original Hatch Act the first "Land Grant Colleges" were created. These early "State Universities" had a double responsibility to the nation as well as to the state, since by the land grants they received support from both. Later, in order to assist them in meeting that responsibility, came the legislative act creating the first agricultural experiment stations—introduced by the then Senator Morrow of Missouri, and taking his name. Next came the Adams Act, carrying further limited Federal appropriation for the support of approved research work.

After that, since still another step was necessary to get the now accumulating knowledge to the farmers of the nation, followed the Smith-Lever Act, for University Extension Service, appropriating funds whereby the Federal Government as-

sists in supporting "county agents" of the various State Agricultural Colleges. And finally, there came the Smith-Hughes Act, providing funds for high school courses in agriculture and other vocations.

All this worked out in a very interesting and valuable way. We all know something of the rise of the Land Grant Colleges—such institutions as the great school at Pullman, Washington; the Oregon Agricultural College; the Michigan Agricultural College. Then there are the great state schools that have incorporated the agricultural work in a separate department or college of the university, like the University of Wisconsin, the University of Minnesota, the University of California.

The union of state and federal effort was more valuable than even the legislators themselves could foresee. There was a spur, a stimulus, and a balanced guidance in the combination. The growth of the Land Grant institutions was like a snowball rolling downhill.

The state universities and agricultural colleges in which local and federal government joined hands have gone on and on, increasing in size and prestige and influence, and developing scientific research, until they have become great beacons of learning, lamps of scientific knowledge, set up

like lighthouses in their respective states from the Atlantic to the Pacific, from Canada to the Gulf of Mexico.

Now, you cannot continue to turn out a product unless there is a demand for it. All the findings of the agricultural experiment stations and research laboratories in the world could not have gone on producing a more and more important product of scientific knowledge unless there had also grown up ways and means of marketing that product.

A crisis was reached in that need for finding a "market for knowledge" almost exactly twenty-five years ago. Up to that time the Land Grant Colleges and agricultural stations had gone ahead steadily, devoting themselves largely to teaching, and finding each year larger numbers of students knocking at their doors. But the new scientific knowledge that was being secured, as to how to raise better and more profitable crops, was not reaching the farmers fast enough. So the agricultural colleges began to assist in the organization of farmers' institutes. Speakers were sent to them to tell of new discoveries.

"Suppose," Dean Howard of the University Farm at Davis, California, told a visitor, "a farmer comes to us to find out about how to trim fruit trees. He doesn't want to listen to a lecture on

sap. We've got to hold him long enough for him to understand the connection between the two. We have to make things interesting."

In order to make the new knowledge concrete as well as interesting, the University of Missouri, among others, began to borrow old passenger coaches from railroads, fitting them up with sleeping bunks and sending professors around from station to station with "exhibits" of grain or fruit or new sprayers, or what not. That was about 1900. Within a couple of years these traveling lecture bureaus had developed into regular "institutes de luxe"—whole demonstration trains, sent about from place to place. The method is still used, when occasion warrants. A poultry exhibit, say, carrying samples of scientific roosts, trap nests, feeding hoppers, drinking fountains, brooders and brooder crops, scratch-feeds, and so on, with plans and schedules and charts and pamphlets to match, for free distribution, will make the round of the state. The exhibit travels for perhaps a whole season, or even a whole year, stopping a day or two at each county seat or important center.

Then came still another step: the resident "county agent."

There are, for instance, 71 counties in the state of Wisconsin. Fifty of them have what are known as "county agents." These are the representatives

of the agricultural college, on hand to help farmers use the knowledge the university has secured. They have to be good mixers. They must know what they are talking about. John Farmer is always willing to be *shown:* the county agents do the showing, and win his respect for university knowledge.

In most states the request for a county agent has to come from a local farm bureau that represents at least one-fifth of all the farmers in the county. Farm bureau dues vary from five to ten dollars a year. The expense of the county agent is borne by the state and federal governments—but the demand for his services has to come first. He is not foisted on any county that does not want him or is not ready to appreciate the value of the services he can render. Of the more than fifty counties in California, all but one of the forty that have large agricultural interests now have county agents.

Suppose an Iowa farmer finds a peculiar cutworm attacking his potatoes. He tells his neighbors about it, and someone suggests that he get in touch with the county agent. Or he writes to the state university about it, or even to the Department of Agriculture at Washington, and is in time referred back to his own county agent. The agent, as soon as word comes to him of Farmer

Jones' problem, pays a call and gives instructions and advice as to what to do about it. If he doesn't know, he refers the matter to his superiors, and the university sends out a special research man to investigate. The entire scientific resources of the state agricultural forces, and through them of the federal Department of Agriculture as well, are available to help Farmer Jones solve his cut-worm problem.

Here are some of the ways in which agricultural colleges now spread knowledge to the citizens of the state:

By means of "short courses," perhaps six weeks long, or perhaps only a couple of days, that are given either at the state farm or at local centers, as often as arrangements can be made for a sufficient number of farmers to attend them. For instance, there is a course in dairy industry, covering such allied subjects as the manufacture of ice-cream, cheese-making, creamery management and so on, for merchants as well as dairymen.

By means of "live-stock week," at which sales and trades of imported stock are made, and the value of full-blooded breeding stock is demonstrated.

By stimulating interest in county fairs, at which lectures and demonstrations are given.

By conventions, such as one for bankers ar-

ranged at the Yosemite National Park by the University of California, at which more than a hundred California bankers were present for two days, under the auspices of the College of Agriculture, so that the bankers might know and understand more thoroughly the problems of farming.

By the publication of bulletins and other literature, after the manner of the Department of Agriculture at Washington. Samples, picked at random from the stacks on the shelves of the Extension Division of the Wisconsin Agricultural College, awaiting further distribution, show such titles as: Sewing for Girls; Milk—the Best Food; Liming Wisconsin Soils; Minerals for Livestock; Judging Dairy Cattle; Feeding for Eggs; and so on, indefinitely.

Finally we come to the last step of all—getting to the younger generation while they are still in the schoolrooms. Here is an extract from the monthly report of a Wisconsin county agent, organizing "project work" in the thinly settled districts at the northern end of the state:

"During the month of March the roads were in good condition, which enabled me to get around throughout the country and hold and attend many meetings. There were 31 meetings that were held and attended in all parts of the county. A distance

of 1,426 miles was covered in carrying on the work. The calf and poultry work was the major project for the month. The sewing work having been well organized, carried on without much supervision except what was handled through correspondence. During the month I have made an effort to get in the communities needing the most help. The large number of clubs and the size of the territory naturally limits the number of clubs and places that can be reached in a month. The film 'Partners' was used extensively during the month in stimulating added interest in club work. It was shown in six schools to over 2,000 students. At all showings of the film I talked on club work to the school assemblies. The enrollment in club work has been increased during the month so that we now have 1,336 boys and girls signed in the project work."

"Home economics" forms an important department of agricultural extension work: how to buy meat, the different cuts, the nutritive values of different foods, new ways of putting up fruit, sewing, budgeting, home decoration. Such extension work is carried on largely by correspondence, and through community clubs.

The result of this twofold development, of great lighthouses of scientific research and education on one side, and the interest in profitable

knowledge on the other, has been to bridge the gap between textbook and potato patch, between theory and practice, between classrooms and life. More than any other single influence in the entire educational field, perhaps, this continually tightening union between knowledge and its application has made itself felt by calling attention to the futility of book-learning absorbed only to be forgotten. It has tended to make all American education far more valuable through getting it into closer touch with everyday human life and everyday human problems.

Here is the way Dean H. L. Russell of the Agricultural College of the University of Wisconsin puts it:

"We have three horses at the Agricultural College," he says. "Instruction, research, and extension. That is where we get a point of view different from that of the ordinary school, where they have only one—instruction. We have not only to get the knowledge and teach it—*we have to pass it on.* We have to *apply* it. Now, our horses, like any others, pull best when they're driven abreast—not tandem." He illustrates with gestures, driving three fingers of one hand with the other. "When our instructors get out into the field, away from the colleges, they find out what farmers are up against. When they come back to their classes

they teach *farming*, not merely nice theories. They have learned through actual experience, and they know the value of it. It changes their point of view. It changes their courses. They have just as much science as they had before, but they have been up against the necessity of finding out how and where it can be applied, how much of it is really useful, and how much is relatively unusable. That makes them better teachers. Our research workers the same way; they find out what farmers need to know, and have something more definite to steer their research work by than just their own theories of abstract knowledge."

That is a pretty far-reaching thing. As yet, to be sure, its influence in the secondary school field has not been felt distinctly except in certain trade schools. But indirectly, it is already a great power. Everywhere, among progressive school systems, there is an effort to bring classroom studies and the actual experiences of life closer together, to substitute material that will lead to "vertical" instead of merely "horizontal" ability. Knowledge is being more closely related to life. If a course, or any of the material in a course, is good for textbook and classroom work only, if a student can not turn it into actual experience, the course needs to be pretty carefully investigated.

Coöperation Between School and Industry

Another solution to the old problem has been discovered by a man of unusual vision and energy. Reference has already been made to him in these chapters—Dean Herman Schneider of Cincinnati University's College of Engineering and Commerce. He saw the attempts that were being made to bring life more directly to the classrooms; he watched the attempts that have been made to take the classrooms out to life. For his own experiment he resolved to combine the theoretical and practical sides—teaching, on the one hand, and life itself on the other—by alternating the two. His story, and the success that attended it, is worth giving in some detail.

Down in the Kentucky mountains, thirty or more years ago, Herman Schneider, a school boy in his 'teens, was apprenticed to a one-armed carpenter. He had to help his mother earn a living, and did it by hammering nails, holding a board while the one-armed carpenter sawed, and all the rest. One day, when they were both puzzling over a mystic blue-print, the carpenter remarked:

"Herman, if I was your age, and had it to do over again, I'd go to school and learn how to read them blue-prints. Then I'd get to be a contractor, instead of just a one-horse carpenter."

That suggestion started the train of events that brought about, years later, the so-called "Coöperative System" of university and high school education—known also as the "Cincinnati Plan."

The one-armed carpenter did more for the boy Schneider than many a learned schoolmaster has been able to do for the youngsters in his charge; he put into him the desire for knowledge.

Although working to earn his living from year to year, young Schneider managed to find opportunity to take up again his incompleted schooling. Bit by bit he made his way through the college preparatory work until he found himself ready to enter Lehigh University. Always driven by necessity, he kept on with the other work that brought him in money—remaining bread-winner on the one hand, and scholar on the other.

At college, Schneider supported himself with work in an architect's office, handling the very blue-prints that a few years before had been so mysterious. He was what was known as a "filler-in," carefully copying in a whole line of factory windows, after the first had been drawn by the architect in charge—work that to-day has in large part been done away with altogether. He worked evenings and week-ends, going to his college classes when opportunity afforded. What was only a round of classroom drudgery to his under-

graduate companions was to him almost a vacation, or absorbing recreation—a continually opening door of knowledge and advancement. Always the two things went hand in hand—practical experience in the everyday world of bread-winners on the one hand, and theoretical education on the other.

Working in the same field in both "shifts," he made what seemed to him an astonishing discovery. There were many points at which what he was taught in the lecture-room, and what he learned in the shop, differed widely. Continuing his work in engineering, he was told how to construct bridges of wood. He was instructed in the intricate matters of stresses and strength in terms of wood—how much more weight oak would carry than maple, or yellow pine. But from his work in the architect's office he knew that wooden bridges had "gone out." Their day was past. Wood, for bridge building purposes, has been supplanted by better materials. The day of steel was coming in. Much of what was being so laboriously taught was of no practical value. As useful knowledge it was obsolete.

Graduating from Lehigh University, he went into the architect's office where he had been holding down a part-time job, and became a partner. He began to make money. A pleasant living lay

ahead of him. Some lecture work that he did for the university, as he became increasingly successful and had the beginnings of a reputation, kept him in touch with college life and activities. He tried to give his students as much knowledge of actual conditions as he could, but felt that he was bucking a stone wall; they were not in contact with life itself. He might almost have been talking to them of a foreign country.

His students would come to him for information, from time to time. One might ask how many rivets would be used under such-and-such circumstances. "Of course," the boy would add, "according to the books you'd only need to use one—but how many do they use in actual practice? What's the custom?" And Schneider, from his experience with actual conditions, would tell him, perhaps impatiently: "Why, they usually put in two, of course, to make sure. You'd think anyone would know that!"

One evening, walking home after a lecture, and thinking of the handicaps his students were under in getting only a theoretical knowledge of what they were studying, he noticed particularly the glow from the Bethlehem blast-furnaces against the darkening sky. And suddenly the feeling that had been growing for years became an overwhelming reality, a definite conviction. There, under that

glow reflected from the clouds, lay the real university. Those blast furnaces, with their white-hot metal and gigantic, black machinery, were the places where his students could find out what they really needed to know! He would have to find a way to combine his classroom lectures with actual life.

He worked out a plan for a course that would combine shop work and classroom work in alternating periods. Certain that it was an improvement over existing college methods, which in so many instances got so far from real life, he took it to the university authorities and asked for permission to try it out. He was promptly refused. The plan was too radical. It did not conform to accepted college standards, to university tradition.

So Lehigh lost its chance to inaugurate the "Co-operative System." It kept itself free to go on teaching students how to build wooden bridges that were no longer being used for practical purposes.

Then Schneider went to the University of Cincinnati. He gave up his outside work, and devoted himself entirely to the plan that he believed to be such an improvement over existing college methods. But he met only discouragement. For six years he found himself fighting an apparently insurmountable barrier of conservatism and preju-

dice. Finally, in 1906, a change in the administration of the University of Cincinnati gave him his chance. The new president, himself something of a radical, granted permission for the experiment.

Twenty-seven pupils were admitted to the first "coöperative" class in the fall of 1906, as against the 107 who elected to keep on with the regular or "theoretical" course. Mechanical, electrical, and chemical engineering were the subjects offered, in which the "coöperative" students could combine practical experience with alternating weeks of classroom study. Fifteen manufacturers, interested chiefly in machine tools and electrical equipment, coöperated with the university by allowing students to enroll for the jobs that would occupy their time during the "practical experience" periods.

By 1909 the number of "coöperative" students had increased to 123 and a coöperative course in civil engincering was added to those already on the list. The number of regular or "theoretical" students had shrunk to 62. The original "coöperating" firms had increased to thirty, including four railroads, a construction company, city, county, and federal engineering departments, and so on.

Eight years more, and the superiority of the cooperative plan was still more clearly demonstrated. "Coöp" students had increased to 473, and the

"regulars" had dwindled to 27—exactly the number of the first "coöp" class, eleven years before. The coöperating firms had increased to 86, and included manufacturers of automobiles, elevators, soap, ink, cash registers, and fire-engines, as well as rolling mills, structural iron works, and a lot more. In 1919 the College of Commerce was joined with the College of Engineering, and put on a coöperative basis throughout. A year later young women were admitted to the coöperative courses for the first time. In 1920 the "regular" or "theoretical" course was abandoned altogether. There were no more takers. In fair and open competition, carried on unremittingly through thirteen years, it had lost out—lost slowly, steadily, unequivocally. It was not as good. Schneider's method of education was better.

To-day the coöperative departments of the University receive something like 10,000 inquiries each year from prospective students. The majority of these students are advised against applying for admission. But more than two thousand take the entrance examinations. Of these selected thousands, only about one in two are passed. And of this thousand, only about four hundred are admitted to the freshman class.

From an obscure engineering department, the College of Commerce and Engineering of the

University of Cincinnati has come to foremost rank. Its graduates step smoothly into high positions, or keep on with the firms with which they have already become closely connected. Throughout the country other engineering schools are using, in one form or another, the "Cincinnati Plan." Included in the number are Georgia Tech, Worcester Tech, Massachusetts Institute of Technology, and a dozen more. High schools, in such cities as Dayton, are putting in "coöp" courses in increasing proportion. Two colleges have already introduced the "coöperative" idea into the field of Liberal Arts. One of these, Antioch, has rapidly become known from coast to coast.

Herman Schneider, the boy who was the one-armed carpenter's apprentice, and who later, just as in the story-books, "gave up fame and fortune" to war for years against the barriers of conservatism, now sits in a large, simple, easily accessible office, as the beloved dean of an Engineering School that is setting the pace for the whole country. He is rather spare, wears trim rimless eyeglasses, and looks the part—architect, engineer, scholar and educator.

The full course at Cincinnati takes five years, eleven months to the year. During the first two years, the students alternate between "practical experience" jobs and campus work in two-week

shifts. During the last three years the alternating periods are longer—four weeks. The men work mostly in pairs: Tom starts on the campus, and Dick on the railroad or in the machine shop. At the end of two weeks they change places. And at the end of five years they are at one and the same time college graduates and experienced craftsmen.

On their "jobs" the students are given almost as much guidance as on the campus. They have to make regular reports, work on question sheets that ask why the work they are doing is necessary, what precedes it, what follows it, how it could be improved upon, and a hundred and one thought-provoking things that develop both practical knowledge and fertility of ideas.

High efficiency has been attained in the "Coördination Department," of which mention has already been made. This department has to do with moving the men about from place to place, learning their abilities and requirements and placing them in the right jobs. On this department, it has been found, rests the greatest weight of responsibility; it can make of the "Coöp" system a mediocre, or a tremendous, success.

Best of all, perhaps in part through the personality of the dean himself, the difficult welding of culture and capability, of vision and practicality, appears to have been accomplished; at least

more than elsewhere. Dean Schneider believes that education should develop leadership. Among the graduates of his college of engineering, he hopes, there will be found real leaders, equipped with wise enthusiasm, power, and perspective.

"Shop work," Dean Schneider explains, "may be merely mechanical. It may also be highly intelligent. The engineer of a steam-shovel may know only enough to operate his machine—but that steam-shovel in his charge embodies the whole marvelous story of civilization, from its very beginning to the latest application of scientific knowledge. If he can absorb the thought-content of that steam-shovel, he has absorbed the whole growth of mankind. All science, all history, all the coöperation and achievement of the human race, have gone into its production. If a man who is studying to become an electrician or a mechanical engineer can change from the rush of acquiring practical experience to the more thoughtful atmosphere of a college campus every little while, and see what he has learned in its relation to other knowledge, he may develop a real philosophy of life, as well as the ability to do his work well."

PART III

BETTER WAYS OF TEACHING

CHAPTER I

A New Approach to Method

During the past thirty years there has come a tremendous change in our whole attitude towards methods of teaching. Progressive schools all over the country reflect this change sharply. Conservative, tradition-loving institutions, on the other hand, still follow so closely in the footsteps of an earlier generation that the contrast is striking.

We can turn from musty disquisitions on why and how this change has come about to a fascinating little book of humorous philosophy, or philosophical humor, called *This Simian World*, by Clarence Day, Jr. There we find the change epitomized with edged brevity that is at once startling and delightful—depending somewhat on the point of view.

"Are we or are we not simians?" writes Mr. Day. "It is no use for any man to try to think anything else out until he has decided first of all where he stands on that question. It is not only in love affairs: let us lay all that aside for the moment. It is in ethics, economics, art, education, phi-

losophy, what not. If we are fallen angels, we should go this road: if we are super-apes, that.

"For example, in education, we have in the main two great systems. One depends upon discipline. The other on exciting the interest. The teacher who does not recognize or allow for our simian nature, keeps little children at work for long periods at dull and dry tasks. Without some such discipline, he fears that his boys will lack strength. The other system believes they will learn more when their interest is aroused; and when their minds, which are mobile by nature, are allowed to keep moving."

Interest Replacing Discipline

Little by little we have swung away from the "fallen angel" attitude of our fathers. School, no longer a place where children have to go for the good of their souls, is made less burdensome and more interesting. You hear less and less about discipline and more and more about accomplishment, stimulation, and the desire to learn.

The change began with the coming in of kindergarten, more than fifty years ago. *Pedagogics of Kindergarten Work,* by Friedrich W. J. Froebel, was followed by *Kindergarten Toys and How to Use Them,* by Heinrich Hoffman in 1874, and a host of other translations and exposi-

tions. It was not until about twenty years later, however, that the kindergarten idea became widely adopted. From then on, under the stimulus of Parker and Dewey, the new virus spread rapidly, with one discipline hour after another being given up, as we have already seen, to make way for gymnasium work, or Sloyd, or some other occupation thoroughly congenial instead of merely informative.

To-day, if you go into the primary grades of almost any one of the progressive school systems we have been discussing, you find ideas taken over from kindergarten and carried along one step further. Tables and chairs, with chances for four or five children to study or talk or play together, instead of the formal little individual desks, with the seat for the fellow ahead tacked on it in front. Attractive, well decorated rooms, made, and kept, enjoyable. Everywhere informality and a considerable degree of freedom, instead of the old formality and strict discipline. At the grade schools of the Rochester system you see tiny youngsters, seemingly hardly more than kindergarten size, although already a year or more beyond it, run from a line that is changing rooms or going into some general assembly to chase after the gray-haired principal of the school, snatch at his hands, hang on his fingers, and ask questions or implore

favors with almost as great demonstrations of affection as they could show for a favorite uncle.

Instead of the early years of school being regarded as least important, they are coming more and more to be regarded as the most important of all. This is entirely understandable when we consider that formerly the imparting of information was regarded as the most important function of the school, and that, except for taking the first steps in reading and writing and number work, there was not a tremendous amount of book information that children were able to take on during those first few years. Nowadays the acquisition of right habits has come to be recognized as primary —habits of attention, of interest, of sense perception, of concentration and feeling—and for the formation of habits the early years are the most important.

New Light on Reading

With the change in attitude, from ordering or compelling to interesting, stimulating, and guiding, there has come into existence an entirely new set of books and materials. Reading is taught—even self-taught, to a far greater extent than formerly —by various devices, all nearly as fascinating as play.

Courtis, at Detroit, has devised a reading-

method that utilizes a big tablet with pictures, and labels to cut out and paste in the proper places. Something like six thousand children in the Detroit schools now teach themselves how to read from those big reading tablets—with a certain amount of guidance from the teacher or older pupils—in hardly more than half the time once needed for such learning.

But far more important than the mere knowledge of how to read is the formation of habits of interest and application and self-help.

There are other new reading systems and reading books, new arithmetic books, new and improved textbooks of all sorts—some marking a great advance, some only a little. And around and behind them all there is a tremendous amount of scientific investigation going forward, a little here and a little there, to determine what methods arouse interest, and what methods produce results, and why.

At the School of Education of the University of Chicago, for example, they have been studying the eye movements of children in reading, by means of moving pictures. One result of this investigation was to determine the effects of injurious reading, especially in the case of material too difficult for the pupils.

A ray of light was cast from a distance into the

side of the child's eye in such a way that he was almost unconscious of it. From his eye it was reflected into a moving picture camera while he was reading. Each time that his eye moved, the line of light on the moving picture film shifted to the left or to the right. When the result was thrown on a screen the investigator could count exactly how many times the child's eye had moved in a second, how far it had moved, and whether it had made a succession of forward movements for each line or had to go back repeatedly to look at words a second time.

An even more elaborate investigation was carried on by putting a bell in a sound-proof box attached to a dictaphone which was connected with the moving picture apparatus. The child read aloud into the dictaphone. The bell rang into the dictaphone at regular intervals without the child hearing it, and at the same time cut off the beam of light reflected from the child's eye for a fraction of a second. In this way it became possible to discover just what the child was saying for each position of his eye. These investigations showed that a child reading material too advanced for him rests his eye on each word, and frequently jerks back to words already read. The eye of a good reader, on the other hand, sweeps rhythmically along each line, stopping only three or four times

to take in, at a glance, a whole group of words. Another finding is that a child's voice runs far behind his eye if he is a good reader. Poor readers sound out each word as they look at it, while good readers may keep their eyes as much as two or three lines ahead of their voices.

Among the direct applications to teaching of this investigation are these: If a child reads material that is too difficult for him, he forms bad eye habits. If a child reads aloud too much, especially after he reaches the fourth or fifth grade, he is in danger of slowing down his reading rate and of becoming a "lip reader." In short, such emphasis as has been placed on oral reading in the upper grades of public schools, while eye habits were still being formed, has actually tended to impair the children's reading ability for life.

Teaching children to read well turns out to be largely a matter of training the eye muscles. The most effective general training for the eye muscles is to give children plenty of simple material to read, easy enough and interesting enough to tempt them to read fluently, to allow their eyes to sweep rhythmically along each line, with few and short pauses. When, on the other hand, a child is given reading material that is too difficult for him, his eyes do the same thing as the eyes of a bad reader. They start using again the wrong kind of move-

ments. It becomes a matter of physiological importance to give children books which are suited to their age and taste and reading ability.

But—and here is the next step—progressive schools, wanting to teach reading properly, have found themselves without knowledge of what the proper books for certain reading abilities are. This lack has been partly overcome by a long separate investigation that finally resulted in the publication of the Winnetka Graded Book List. The investigation took in more than a hundred schools, scattered through different sections of the country, and thirty-seven thousand pupils. From the hundred thousand votes secured for different books, it was possible to compile a separate list suitable for each degree of reading ability. The tabulated results, in the published volume, are now available at nearly all libraries and are of course widely used by professional schools. An analysis of the differences among these books has now been made so that teachers may determine objectively the exact difficulty of any book for children.

Attacking the reading problem from a somewhat different angle, Dean Gray went out from the University of Chicago into public school systems which agreed to coöperate by teaching reading in various ways. He supervised their teaching

and measured the results until he got light on how reading could be most effectively taught under public school conditions.

New Light on Arithmetic

Similarly Buswell, also from Chicago—the same man who did so much work in photographing eye movements—secured the coöperation of a number of public schools and sent his research assistant out to see how children worked arithmetic. He had previously sat with children and watched them minutely as they did their arithmetic examples. Whenever they made a mistake, he got them to do the example aloud; then he recorded the nature and cause of the error. The number of ways children could go wrong was amazing.

He tabulated the most common kinds of errors and then worked out schemes for detecting and eliminating them. These were tried out in the cooperating schools under his assistant's supervision, and the results painstakingly measured.

"It may seem too laborious a task for a teacher to undertake a detailed analysis of each pupil's difficulties," says Buswell, "but in the long run it economizes both her time and her pupils'. She now spends hours drilling in a random, general way

to very little purpose; whereas a much shorter time, accurately directed, would do the trick far more effectively."

It is a good deal like an automobilist who, being uncertain of his direction, yet in a hurry, can't take time to get out and ask his way, and who therefore speeds down the road he *thinks* is right, only to find it wrong and to have to go back. Then being still later and more in a hurry he can't possibly stop at a farmhouse to ask questions; so he hastens down another wrong road. Ultimately, he may reach his destination by such a trial and error method, but certainly he has not saved time. It is the same with the teacher who feels too pressed for time to analyze specifically the difficulties her pupils face.

It is not only university professors who are doing scientific work in an attempt to find more effective ways of teaching. A group of school superintendents and principals in northern Illinois organized a "Committee of Seven" a few years ago and have been persistently striving to find better ways of teaching arithmetic. They were the ones who, in the first year of their research, measured the speed and accuracy of Rotarians and members of commercial clubs and parent-teacher associations. For the next three years they devoted themselves to an attempt to learn how to teach

children to solve arithmetic problems: "Anna's father averages 22.5 miles per hour in his automobile. He is taking her to her grandmother's house, 475 miles away. If he drives 8 hours a day, how long will it take for them to get to the grandmother's house?" Such problems—and far simpler ones—stump a distressingly large number of children; they are the hardest part of arithmetic. And arithmetic causes more school failures than any other subject.

These school men set to work to do a scientific job. They observed children struggling with problems. They set up hypotheses as to what was wrong and how it might be righted. They then began a series of experiments to prove or disprove their hypotheses.

In order to carry out their experiments they got the help of other superintendents and teachers. These divided their pupils into two equal groups—equal in age, equal in mentality, equal in arithmetic ability, as shown by carefully prepared tests. The same teacher in a given school taught both groups—one group by one method, the other by another method, for the same length of time per day for a specified number of weeks. Then both groups were again measured to see which had gained more. Since this was done by twenty or thirty teachers in a dozen or two dif-

ferent cities, any chance elements were eliminated and it became possible to see which method was really superior.

Three years' work of this sort showed several things: First, many errors were mechanical—wrong adding or subtracting or multiplying or dividing; children needed more training in accuracy. Second, part of the trouble lay in the problems—too many textbook problems dealt with matters outside the range of children's experience—indeed sometimes outside of nearly everyone's practical experience. Who needs to know, for instance, "If a man sold 50 sheep at $15.75 each, and made a profit of $128.75 on the transaction, how much did he pay for the sheep?" The committee also found, much to its surprise, that it doesn't usually pay to train children to use any set form of analysis for problems—"amount given; amount to find; process to use; approximate answer." The best results came from giving children many practical problems, and helping individuals where they got into trouble. Finally, it was found that concentration on problem solving, with plenty of practice on problems that are real and within the child's grasp, yields highly gratifying results.

At present this same Committee of Seven is engaged in finding out *when* the different topics in

arithmetic—division, or decimals, or fractions—can be most effectively taught. They have secured the coöperation of over a hundred school systems and many thousands of children in the series of experiments they are undertaking.

Their first year's work in this new field is now completed. It dealt with the question of how soon children should start arithmetic at all. Many progressive schools nowadays postpone all formal arithmetic instruction to second or even third grade. The Committee of Seven unearthed some five thousand sixth grade children, a third of whom were in schools that for at least six years had begun arithmetic in first grade; another third of whom were in schools which had begun it in second, and the rest of whom had had no formal arithmetic instruction till they reached third grade.

Could these children all do arithmetic equally well by the end of sixth grade?

The Committee had the children's native intelligence tested first to see if the three groups were about equal in age and mentality. The records of children who upset this equality were eliminated from consideration. Then all were given a very complete test on all phases of arithmetic taught up to sixth grade.

In addition of whole numbers, they were all equal. In every one of the eleven other processes

in which they were tested, those sixth grade children who had begun arithmetic in first grade made the best scores; those who had started in second grade made the next best, and those who had not begun formal study of arithmetic till third grade made the poorest scores.

Here was a case where the trend of progressive schools was apparently away from efficiency. The acid test of scientific experimentation was needed to check a mistaken tendency.

In spelling, in language, in social studies, even in character education to a slight extent, the new science of education is making itself felt. New methods are being devised—and tested. Little by little the ways of teaching, like the subject matter taught, are being put in the balance, are being weighed and analyzed. The inefficient methods are being discarded for methods that are more effective and, what usually amounts to the same thing, more interesting to the children.

Interest—End or Means?

It is pretty generally recognized in all the better schools of to-day that children's interest should be secured—that it is not only desirable for the child's sake, but for the very efficiency of instruction. But there is some divergence among progressive educators as to whether children's in-

terest should be *aroused* in what the teachers want them to learn, or whether what they are to be taught should in a considerable measure be determined by their natural interests.

One school of thought looks at the needs of society as paramount and seeks a way to interest children in the acquisition of the necessary knowledge and skills. This school tries to "motivate" the knowledge and skill subjects.

The other school of thought says, "Let the child live freely and fully to-day, *as a child*, then, when he is older he will live equally fully and effectively as a man." This group would study the child, and teach nothing *until the child feels a need for it.*

Unfortunately, most of the scientific work has been done by the first of these two groups. The research we have just been describing deals with the most effective methods of teaching knowledge and skills. The other group rely more on deductive reasoning, and certain psychological "laws." Their arguments carry a strong emotional appeal —when, for example, Kilpatrick, perhaps their leading spokesman, appears on the platform in any part of the world he is greeted with an ovation.

But whether one school or the other is right, or whether, as seems to us more likely, the truth

lies between the extremes and embraces both philosophies, the future alone can tell.

The science of education is still new. The things which it can prove are very few in comparison with the large number of matters in which even the best schools to-day are still doomed to grope forward on "hunches."

CHAPTER II

Stimulating Interest

A GREAT deal of criticism has been leveled, much of it perhaps justly, at the so-called "platoon system" of shifting children from classrooms to playground or workshop or auditorium while another "platoon" comes in to take their places. But it should not be forgotten that William A. Wirt of Gary originally visioned the system as a method of giving children more varied school activities. That meant, and means, a more complete life within the school. It means a more interesting routine. The work-study-play method, he called it. And as such, it has played an important part in shifting the emphasis in American elementary schools from drill and discipline to interest and liking and voluntary attention, with the resultant good mental habits of desire for information, concentration, and self-direction.

"Platoon Schools"

For more than twenty-five years Wirt has been working out his ideas of what a school should be, what it should do, what part it should play in the

community life, in developing the next generation for its part in citizenship. For nearly twenty years of the time he has been at Gary.

For a decade after his schools began to be discussed nothing much was done about them elsewhere. "This platoon system may work all right at Gary," other educators said, "but it wouldn't be practical here." Or, looking at the hurly-burly of Wirt's crowded schools: "There's nothing fundamentally new in what he's doing. We have better schools than he has, right now."

So the discussion died gradually away. People began to forget about it.

Then, more recently, the Gary idea began to crop up all over the country. Not by name, this time, but in results—in rich residence sections: Sewickley, Pa., and Swarthmore; near Chicago, at Riverside; in great industrial cities like Detroit, where there are now more than sixty platoon schools; in Pittsburgh; under the name of "Swings" in Milwaukee; in other cities, called "alternating classes," or "parallel groups."

With the possible exception of the movement to adapt schools to individual differences, there are few single influences, in the great wave of improvement sweeping through American education, more important than that of the "platoon system." It takes its place with project work, and

has played an effective part in leading up to vocational guidance and the development of real, rather than classroom, ability.

If the school system of any city, East or West, does not show in some measure the influence of one of these great movements for better elementary education, the children of that city are not getting the schooling they are entitled to considering the money that is paid for it.

Over and over the platoon system has been dismissed with a wave of the hand as merely a measure of economy, to utilize school buildings to capacity. But it is more, and much more, than that.

It is true that the platoon system is cheaper to operate than the old system, other things being equal. Less school-building space is needed because all parts of the building are in use all of the time.

Gary's cost per child for education has been for years no higher than most cities; indeed, for the elementary grades at least, slightly lower. But that is not the point. Wirt's work-study-play method throws additional emphasis on out-of-door work and shopwork and social gatherings, as compared with the ordinary school which is devoted largely to classroom study and recitations. It alternates mental and manual work, classroom work and shopwork. The monotony is broken. School becomes less of a prison and more of a playground.

Liking precedes learning. There, in a nutshell, is the heart of the platoon system.

William Wirt is a rather severe, heavy-set man, past middle age, graying a little, with stubby-toed shoes. He has a level, non-committal eye, square jaw, and firm mouth, relieved at intervals by a quick, kindly smile.

"You see," he explains, "we go to school here all day. Seven hours, and one hour for lunch. Eight hours altogether. Few of the children go home for lunch. They come Saturdays, too. Saturday school is optional, but we have a registration of more than eight thousand out of twelve. The average time is about two and a half hours on Saturday. Then we have summer school, too. We have six days a week, forty-eight weeks a year."

Gary is a flat, far-flung town, scattered over forty square miles. Blocks of vacant lots. Telegraph poles and trolley poles and electric light poles. A dozen different languages on the sidewalks. At night the sky is lurid with an angry glare from great blast furnaces. It occurs to any visitor that if children here can be made to like school even reasonably well, they can be brought to like it anywhere. A high percentage of Gary parents are foreign-born men and women of the lower working classes. But their children certainly learn to like school. Where only a little more than

half of the public school children the country over are graduated even from the eighth grade, Gary figures show that more than 90 per cent. of the grade school graduates go on to high school. One year it was 97 per cent.—all but twelve out of 411 graduates. And more than 65 per cent. of the high school graduates go on to college, as against about a third in most places.

One wonders whether, with so much less emphasis put on classrooms and regular three R's work, the children get ahead anywhere nearly as fast as at other schools. Here is a system that, instead of stressing classroom activities, lets the children spend a lot of time in assembly rooms and shops and on playgrounds. But on the average, according to Wirt's figures, it takes only seven years to complete the eight grades. Various outside surveys have led to a certain amount of questioning of these figures—but there is no question whatever that the Gary average is well up to most other public school systems, if not above.

Wirt puts a good deal of emphasis on the fact that few children in the Gary schools repeat grades.

"We don't have much trouble that way," he explains. "In the first place, we arrange the children according to their ability and intelligence tests. Usually we have about five different sections

to a grade, where other schools have only three. Then each group goes ahead at about its own rate of speed. They string out about two months apart by the end of the year. So even if one child did have to drop back, he'd only drop into the next section behind—a couple of months instead of a year.

"But remember the optional Saturday school. And summer school, too. If a child begins to fall behind his section, he can get additional help, Saturdays, and take an additional term during the summer.

"And that's not all. Remember that while one group is using the classrooms, another is in the shops or assembly hall. If one boy gets behind in his arithmetic, and needs more time, we can simply arrange for him to stay for another arithmetic group. Then he gets twice as much time for his arithmetic as the others, as long as he needs it.

"Another thing, we get a good deal better chance to watch the children's physical development than in the old-fashioned schools. You see, our physical directors and workshop teachers are all regulars, instead of being merely specials. They're on the job all the time, just like the other teachers."

Shopwork and games and assembly-hall gatherings, instead of a monotonous classroom routine,

Wirt sums up the Gary school advantages, and a desire for further knowledge that expresses itself, even among the children of foreign-born factory hands, in voluntary high-school and college enrollment instead of enforced "continuation-schools" attendance. He feels that it is no wonder that Gary's contribution to American elementary education is at last coming into its own.

One of the serious disadvantages charged against the platoon system is that it shifts children from classroom to playground to assembly hall or workshop, without giving them the guidance and intimate knowledge of a home-room teacher. Particularly in the earlier grades, it is felt in other advanced school systems, this may be proved to be a great and unnecessary handicap. But it must be remembered that the Gary schools are no longer at the peak of the advance: they are of a decade, two decades ago. They helped incorporate a new move for school betterment by substituting a variety of activities for a less interesting routine. It has been left to other systems and other leaders to seize the improvements which Wirt suggested and go on to still better things.

There are still plenty of school systems in the United States—indeed the overwhelming majority—that would do very well to take lessons from Gary and break away from their absolute round

of mind-impairing desk work and deadly routine—an hour and a half of desk and recitations, fifteen minutes recess, another hour and a half of desk and recitations, lunch, two more hours of desk and recitations. Any school administration nowadays can look still further, and see where the main advantages of the Gary system have been retained, while the greatest drawbacks have been eliminated.

Doubtless Wirt or his followers have at times appeared to claim more for his system than the evidence warranted; nevertheless its contribution to American education has been great. In the homes of such later leaders as Studebaker, of Des Moines, or Spain, of Detroit, we can see the Gary suggestions taken over and adapted in a way that stimulates the imagination, opening new doors of possibility for the betterment of public schools. At Des Moines, the Studebaker single salary schedule, with more generous allowances for teachers than Gary seems able to provide, improves the operation immeasurably. The factory methods that seem to mar the Gary system of hurrying children along to make way for the next shift, gives place to a retention of the "home-room" teacher for the lower grades, on a more leisurely, comfortable, and less crowded basis.

But the emphasis on breaking the routine, on

presenting varied activities and change of occupation, on allowing manual labor to alternate with mental labor and periods of emotion (such as participating in dramatic work or competing in tournaments under supervised play, or watching motion pictures in the auditorium) to follow periods of study or strain—these things remain.

To-day you find that tendency in many places. If you go into the grade schools of Rochester that set so high a pace, you can find classes of fifth-graders working over and observing seeds that are sprouting and the plants that have been set out in window boxes, or working out a program of their own for an hour in the school assembly hall. In one Rochester sixth grade room you can find twenty or more children in a music class, each with bow and violin. Each Rochester school has its own orchestra; the children can take music if they want to, select the instrument they want to learn to play, and the city will furnish both instrument and instructor—the flute or oboe or English horn on a rental basis of two dollars and a half a year, and the instructor free! Frills? Not a bit of it. Merely a vastly improved method of securing and holding interest and liking, and fostering all-around development. The same thing is true of the wide curriculum put into effect in the high school of Tulsa, Oklahoma. In Oakland and

Berkeley, California, where the school systems are far above average, the same development can be observed, of shifting courses and methods to make them more varied, more appealing, more interesting, more stimulating. Even in the outlying country schools of the Pacific Coast and the Middle West, free-hand drawing, and "projects" sponsored by the agricultural stations through their county agents, have alike borne fine fruit in the same field—the stimulation of interest and enthusiasm and liking, with the formation of better mental habits, and better development, as the result.

The "Project Method"

Project work itself has progressed from a somewhat different beginning to much the same end. One of the most interesting experiments that has yet been made is that of Ellsworth Collings, Professor of Education at the University of Oklahoma.

Professor Collings secured the coöperation of three rural schools in McDonald County, Missouri, in open country six miles from town, for his experiment. Two of these schools, one with twenty-nine and one with thirty-one pupils, were operated as they had been before as control schools; the third school, with forty-one children, was handled solely on the basis of project work.

It had a complete "project curriculum." All work in the common essentials, reading and writing and arithmetic, with a certain amount of history and geography and spelling and English, was made subordinate to and an incidental part of, various "projects."

The children were divided into different groups, depending on age and ability. With the unforced advice and guidance of the teachers they selected their own projects. One of the projects, for example, was to see why one of the women of the community planted sunflowers at the back of her garden. Like many of the other projects, it necessitated "field work," consisting of expeditions to other gardens to make comparisons, expeditions to secure information, through questioning, from various gardeners and farmers in the rural community, and so on. The work was divided among the children; consultations were held and reports submitted.

Another project, selected like the rest by the children themselves, with the agreement of the teachers, was to find out why one of the farm households not far from the school suffered each year from typhoid fever. This project was chosen by one of the older groups. It led to a surprisingly full investigation of typhoid and its causes as well as of various other contagious and infectious dis-

eases. Different germ carriers were studied; preventive measures were looked up; the entire matter was gone into, clear down to the cost of adequate fly screens, and additional ways and means that might be taken to get rid of the flies that might, in this instance, appear to be the trouble-makers. Copies of the final report were submitted to the farmer himself. On the children's recommendation, and with their coöperation, he moved an offending manure pile, cleaned up and spaded the polluted ground, and instituted an improved fly campaign, with screens, fly-traps, and swatters, each for its appointed function and season. As a result of this particular project and the wider knowledge and efforts that grew out of it, the typhoid visitations were checked.

Naturally, all this work necessitated a lot of writing, in notes and their elaboration, reports and suggestions. That meant also spelling, the use of punctuation, and various phases of grammar and construction, as well as the organization of material. There was incentive to learn these things—or as much of them as the immediate occasion demanded—in the children's interest and absorption in the project itself. There was reading to be done and a good deal of reference work, with material to be digested and reported upon. Arithmetic was necessary in the cost estimates for the fly screens,

traps, and other preventive measures. The whole plan for the campaign against the disease and the germ-carriers that were found to be responsible, had to be worked out. Not all arithmetic, to be sure, studied merely for its own sake. Not all spelling. Not a whole course in handwriting or note-taking, or punctuation, or grammar, or the use of reference books. Merely enough of each to meet the demand of the moment, leaving the rest for later needs as they might arise.

The result of the experiment is exceedingly illuminating. The children in the experimental school came out well ahead of the children in the two control schools even in the matter of the knowledge of the common essentials, reading and writing and numberwork, and in their ability to meet standardized tests and examinations of the old type. They had besides immeasurably better all-round development, balance and perspective. Moreover, the life of the entire community changed. It became more alive, aware of itself and its opportunities and responsibilities, through its connection with, and participation in, the work of the school.

During the winter it was found necessary to place an assistant teacher in the experimental school while the control schools each got along with only one. The reason for this lay partly in

the greater number of children in the experimental school—forty-one, ranging from six to fifteen years of age, as against the twenty-nine and thirty-one in the control schools. The chief reason was the unusual amount of clerical and statistical work connected with making a full record of the experiment. Aside from the cost of this additional teacher, the expense of the experimental school was no greater than that of the others.

Based on the expense estimate suggested by Dr. Sutherland in his Los Angeles experiments, of cost per year *per child's advance*, the entire undertaking can be regarded as a tremendous economy, the demonstration of a possible vast increase (when the details of method and technique are sufficiently worked out to be everywhere available) in school efficiency.

Collings gives credit for the basic ideas employed to William H. Kilpatrick, of Teachers College, Columbia University.

It is only fair to suggest that the data from Collings' experiment be accepted with some caution. Let good teachers, under enthusiastic and close supervision do *any* kind of experimental work—they will get unusually fine results. But certainly the experiment opens new vistas of school betterment for the future.

CHAPTER III

Making Schools Fit the Children

FREDERIC BURK, for many years president of the San Francisco State Normal School, can justly be called the father of individual instruction. For years his voice was raised against the cruelty, waste, and injustice of attempting to teach all children the same things at the same rate of speed. "Lockstep" education, he called it. As early as 1913, he issued fiery monographs on the subject, that were widely read and discussed. A great deal of the work that has since been done in fitting schools to meet children's needs instead of bending children to meet school requirements has either resulted directly from his own teaching and influence, or come in response to a wave set in motion through his strong opinions and personality.

Why the Lockstep Must be Broken

The science of education has shown that our old graded system of education is based upon a totally false hypothesis. This hypothesis sets forth that the children within a given grade are superior,

in their knowledge and ability to learn, to the children in the grade below, and inferior to the children in the grade above. Any fourth grade child, for example, is expected to know more and be able to learn more difficult things than any child in third grade, and to know less and be able to learn less difficult things than any child in fifth grade. While it has always been recognized that there are differences among the children within any grade, these differences have been assumed to be less significant than the grade divisions. All fourth grade children, therefore, are given the same assignment, the same explanation, the same amount of time to prepare their assignment, and are expected to turn out a common result. If they fail it is assumed to be their fault rather than the fault of the school which sets impossible tasks. Scientific measurement has shown this hypothesis to be false. In any fourth grade room are found children whose knowledge and skill and capacity to learn are the equivalent of those of the average child in second grade, others who correspond to third, a considerable number who would conform roughly to fourth grade standards at least in some subjects, still others who conform to fifth and sixth grade standards. These children, representing at least four or five different grades, are taught together as if they repre-

sented one. Great inefficiency results, as well as serious injustice.

To-day the whole country is responding to the urge of the more advanced educators that lock-step methods be driven out of the schoolroom. As yet there are few schools that have been able to devise methods that will let each child progress at his own rate of speed. But the forerunner of the widespread adoption of full individual instruction is already in evidence in many schools from coast to coast, in the grouping of pupils according to ability.

This grouping is usually more or less vague. Sometimes it is done in connection with definite efforts at intelligence testing, and sometimes purely on achievement records of the individual pupils.

Ordinarily three groups are formed in those schools advanced enough to revolt against complete regimentation. These are fast, average, and slow groups. To keep children, in so far as possible, from feeling any stigma attaching to the slow groups, the letters used to designate the three are sometimes reversed—z, y, and x groups, for example, the x-group being the slowest. The subterfuge is rarely successful to any great extent. In fact the entire system of grouping is only a makeshift, bettering conditions only a trifle. Its

real importance lies in the recognition it evidences of the educational inadequacies of rigid grading. Once the basic injustice and inefficiency of regimentation is universally acknowledged, it is bound to give way to something better fitted to the needs of individual children. The group system will pass quickly, as soon as its function of demonstrating the weakness of the lockstep is accomplished. For obviously the same arguments that show grouping superior to complete lockstep are of equal force in showing individual instruction superior to grouping. It is just as unfair that the fastest child of a group be held back to the pace of the slowest, just as cruel that the slowest fail when he cannot keep up with the fastest, as that the different groups be made to keep step.

Every child develops at a different rate. Even in the same family, as all mothers know, children must be differently handled. Some learn rapidly, others slowly; one boy will acquire a certain skill or knowledge more readily than his brother. And although parents realize the fact that every child has his own special speed, few have even yet seen the waste and inefficiency of the old lockstep system of schooling, still in use in most of the schools the country over. We have all grown so resigned to having our children herded through school in masses at the same speed, regardless of

their widely differing capabilities and needs, that we take it more or less for granted that the lock-step is a necessary evil.

It is a deadly system. The quicker child must lose valuable time that he might be devoting to something more important, waiting for the slow one; the slower child works, feverishly and nervously, or sullenly and uninterestedly, as the case may be, to keep up to the average. He is continually behind, and continually ashamed and discouraged. He may contract the habit of bluffing or of half-done work. He starts life with a sense of failure.

It is just as bad for the quicker child. He finds, when he studies his work each day, that he gets it in less time than is allowed for each assignment. At the end of the first fifteen minutes of his thirty-minute study period, he has conquered the particular arithmetical demon that threatened his class for that day. His work is done, and he has another fifteen minutes on his hands. He cannot go on and leave the rest of the class,—that would take him out of step. He has to wait for the others. Adding together the various extra fifteen-minute periods of idleness throughout his eight years of elementary school, he knows that he could have completed the work of those years in seven—or even six. But he was not allowed to do that. Evi-

dently, he concludes unconsciously, you are not supposed to work as hard as you really can. He has kept easily at the head of his class without ever working as hard as he might. So he forms the habit of working below his full capacity. The unoccupied minutes are spent in whatever mischief a lively boy can contrive. Just enough wasted minutes to keep him back with the rest of his class, and to give him the habit of progressing below his own natural level.

There are other evils. Take, for instance, the time lost in recitations. In a class of perhaps thirty-five children, a recitation in arithmetic is due to occupy some thirty minutes a day. Every child is asked a question or two on the day's lesson; all are called on to answer, or raise their hands to signify that they would like to try. Very often the first two or three answers are wrong. The rest of the class, however, must sit as patiently as they can and listen to these wrong answers. And in some of the minds, which were quite clear about the matter when they entered the classroom, a little confusion results. Which *was* the right answer finally? Oh, well.

John is a bright boy, but he was surreptitiously whittling out a wooden pistol during study period, much too busy to study arithmetic. He comes to class in conscience-stricken and fearful ignorance,

wondering if by any chance he can bluff it through. He listens carefully to ten or twelve other pupils recite on the work, and catches the drift of the lesson. When he is called on, he is able to bluff quite successfully. Of course nothing of the lesson stayed with him, but what of that? He is elated. It looks to him like a good trick, one that will work just as well another time. It certainly makes life easier. So why work? He doesn't.

Tom, on the other hand, studied that lesson well. He is eager to recite on it, and much interested. But it happens that he is not called on until nearly all the others have recited. He has to sit still while some twenty or twenty-five children repeat what he already knows very well. Of the thirty-minute recitation period, he finally gets just one minute to tell hurriedly what he has learned. He "does well" in his school work, of course. His report cards are good, as well they might be. But of what use to him are the twenty-nine minutes he spent listening to tedious repetitions of what was already quite firmly fixed in his own conscientious little mind? They were lost to him forever, although he was all ready to go on to the better things.

A wasteful, unintelligent, inadequate system, wasteful in time and effort and self-respect—and amazingly expensive in actual dollars and cents.

Not many parents, probably, have ever considered how much the lockstep system really costs.

It has been estimated that about $80 a year, on an average, must be spent to educate every child. There are around 20,000,000 school children in the United States.

Of the twenty million children all over the country, about one out of every sixteen fails of promotion each year because he is not able to keep up to the average. He has failed in fourth grade arithmetic and language, perhaps, and now he must struggle through that year's work all over again.

Through the entire year's work, you understand—not only fourth grade arithmetic and language, in which he was weak, but also fourth grade reading, writing, history, geography, and spelling as well. He must sit through those classes again, although he passed quite creditably the first time. So he submits to the entire fourth grade once more, bored and uninterested by this time—*and he costs the community an additional $80.*

Multiply his $80 by that of his 1,250,000 fellow-failures all over the country, who have been dropped back that year because of their poor work. It is a breath-taking total—an actual loss of one hundred million dollars—money worse than wasted.

And that is not all. That enormous loss is charged against the slow child. How about the above-the-average children—those who, if they were not held down to the rate of progress of the average, could complete their elementary school in seven years instead of eight? If they had that wasted year in their own hands they could be earning money. Let us see how much they could earn.

Twenty-five percent, say, of all the school children in this country *could* complete their elementary school work in seven years. Actual experiments, in fact, have shown that the percentage is much greater, but let us say twenty-five percent—five million children all over the United States. Another twenty-five percent are taking nine (or more) years to the eight grades, when under an individual system they could easily finish in eight years. That makes another five million children losing at least one year in the eight grades. Since the average earning capacity of native born Americans is about $1,500 a year, that means approximately fifteen billion potential dollars unearned, over the eight years. Nearly two billion dollars a year—enough to finance our entire elementary school system in the United States every year! And one hundred million dollars of actual expenditure to "reëducate" the discouraged "left-behinds."

These were the things that Burk saw, when he began campaigning against the lockstep evils.

Early Efforts Toward Individual Instruction

At about the same time that Burk, with the help of Mary Ward and other members of the San Francisco State Normal School faculty, began the preparation of self-instruction books which enable children to progress individually, Stuart Courtis began to experiment in Detroit. His practice pads and tests in arithmetic were prepared in an attempt to enable children in large classes to practice individually on their weak points and to progress individually in the mastery of the mechanics of adding, subtracting, multiplying and dividing. These tests and materials became known all over the United States and even abroad. The insight they gave into children's differences has been one of the strong arguments for abandoning the class lockstep. And at the same time they pointed the way, as did Burk's material, to individual instruction in classes of standard size, through properly organized teaching and testing devices. Courtis followed up his arithmetic cards, some time later, with individual teaching material for handwriting and later for primary reading. Furthermore, he tried his methods experimentally in Detroit, measured his results, and found them good.

While Burk was working in San Francisco and Courtis in Detroit, and while Ernest Horn in Iowa was experimentally substantiating Burk's claims, Sutherland, in Los Angeles, experimented in one of the large public schools with somewhat similar devices. He found that individual instruction did not cost more than the class method—indeed, that in terms of the cost of pupil advancement it was far less.

The Individual Technique in Winnetka

A little later—1919—Winnetka began its experiment.

Winnetka, adapting many of Burk's ideas to public school conditions, and measuring its achievements as scientifically as possible, has developed the Individual Technique and demonstrated that individual progress is possible under public school conditions without additional expense, or, after it is once launched, any harder work for the teachers or administrators. Children can be promoted as individuals, yet their activities in groups are more encouraged than hampered. Moreover most parents accept the new system with surprising ease. "Why, of course," they say, when it is explained to them, and the results shown. "How else could you do it?" There is seldom antagonism. It apparently seems to them the simplest thing in the world, and they take it for granted. The only re-

action is surprise that so obvious an improvement is not in use everywhere.

Spelling was the first subject to undergo rejuvenation at Winnetka. It was easily done. All the children were examined at the beginning of the semester on all words they were expected to learn during the semester. Some of them already knew all but a dozen or so of the entire list. The average child was able to spell about two-thirds, and even the poorest spellers could spell some of the words. Then why, since most of the pupils already knew so many of the words that represented their year's work, must all the children study all the words in a daily lesson each day, as had been done before?

The teachers checked in each child's own speller the words he had missed. These were the words he knew he must master before the end of the term, but he was turned free to learn them at his own natural speed. The result was, as has been said, that some of the students finished their year's spelling the first day. And knew it thoroughly, too. Even the slowest of the children didn't have to study as many words throughout the year as would have been the case under the old plan.

Reading was next. The reading ability of children the country over varies widely. In the fifth

grade alone, an examination showed that some children had third grade reading ability, some fourth, some fifth, some sixth, and some up to seventh, eighth and even above. A child who has only third grade reading ability will learn to read most rapidly, and digest what he is reading most easily, if he is given plenty of third grade reading work, and allowed to run along in it unforced. That is much better than being made to plow through a Fifth Reader. But the child who can read books like *Treasure Island* with ease and enjoyment, has nothing to learn from a Fifth Reader. He has already progressed further than that, and Fifth Reader work will only hold him back and form bad mental habits.

This time, as before, all the children were tested at the beginning of the year. One of the reading tests that are now familiar to most teachers was used. When it was shown what a wide variety existed in the reading ability in each grade, books were bought that supplied the needs of each individual child. Why not? It was a simple and obvious solution—and it didn't cost a cent more than to buy thirty books all exactly alike. The children were delighted, and the results, as before, were excellent.

Recitations were discarded. The children did

not read aloud to the class—they read to the teacher one at a time, while the rest of the class studied. It took the teacher no longer to hear them read one at a time to her alone than to hear them read one at a time to the entire class. It was less nerve-racking, too, for everyone concerned. The good readers were no longer forced to sit, itching with eagerness to correct, or completely bored, while the slow readers struggled through a difficult paragraph. They went ahead, reading to the teacher only occasionally, while she was able to give more time and help to the slow ones.

It was about this time that a question arose concerning the location of a new junior high school building. It became a bitter struggle, with all Winnetka taking sides and battling violently. Partisanship was widespread, and everyone connected with the Winnetka school system was in the limelight.

Some of this light fell searchingly on the newly developing Individual Technique and the changes it had brought about. Teachers and other sponsors trembled, but the new method was working so successfully, and was so conclusively an improvement on the old, that not a single protest was made against it. It was the first time it had received so much general attention, but it passed entirely without opposition.

The other studies—arithmetic and language and history and geography—still remained to be individualized. In the spring of 1920 the hard work on those began. They had to be individualized without reducing the size of the classes and without increasing the work of the teachers! It was no easy problem.

But the teachers of the Winnetka schools were enthusiastic about the new plan. They had fully realized the improvement in the teaching of reading and spelling from the previous year's experiments, and were eager to see it get under way in other subjects. So that this might be done, they stayed on, voluntarily, after school closed that spring to prepare material that would make it possible to open in the fall with individual instruction in every subject.

There were three essentials to the success of the Individual Technique that they kept clearly in mind to work toward: *Exactly* what to teach, and how thoroughly the materials had to be mastered; complete, diagnostic tests; materials that children could work with alone, and correct by themselves.

The first step, finding out exactly what to teach, was a matter of discussing and clarifying objectives; it has been dealt with in a previous chapter. It meant deciding just how thoroughly reading must be taught, how fast children must add, and

how accurately, and so on. As far as possible these matters were determined by research, but in all cases they were made extremely definite.

Then, new tests were needed. There had to be tests that would cover each detail that the children were required to know, in such a way as to probe each child's exact weakness. So one of the first big jobs was to prepare a whole series of such tests, each complete and diagnostic. It was difficult—so difficult that Winnetka teachers are still examining, improving, revising, and extending the test materials.

Textbooks crowded for attention after the tests were well begun. It was apparent that here was another stupendous task. Individual instruction demands its own textbooks. Ordinary textbooks, especially those in arithmetic and language, are written for the teacher to use and explain. They are not designed for the student to work in by himself.

Again the Winnetka teachers took up the task. They formed into groups and met to work together, dividing the burden. No more school books were bought. Instead, paper was delivered to the supply room by the ton, and ink poured into it by the gallon. The school office became a publishing house for the time being, and the teachers

began to mimeograph their own textbooks. The work went on relentlessly during the entire succeeding winter, new developments and ideas for improvement turning up as they went along.

The outstanding quality in these textbooks, or "practice materials" as they were called, was the simplicity of the explanations and the adequacy of the drill exercises. One thing at a time, and clearly. And thoroughly. Children were to move forward with them, it had to be remembered, at their own gait and on their own initiative. From these "practice materials" they would know what their next step should be. And at the same time, it was necessary to provide means for pupils to correct their own work, in order to avoid overburdening the teachers.

So there were the goals—clearly defined objectives; complete diagnostic tests; practice materials that the children could themselves work with, and correct. It is interesting to see how it worked out.

First let us take the case of the slow student—Harry, who cost $80 extra to educate because he was "left behind" under the old lockstep system. Harry needed more than a year to finish his fifth grade history and language. He needed a year and a quarter, to be exact. But he did not need two full years for the history and language, and

in the rest of the fifth grade subject matter he passed, and needed no more time than the average child.

In the ordinary school, remember, he would have had to repeat the entire grade. He would have had to put in two years on arithmetic instead of one and a quarter; the same with language.

The cost to him is far more than $80 for the years' repeated work. He graduates at 15, whereas all his friends were out when they were 14. He has lost his self-respect, and feels himself a failure. He does not want to go on to high school with the boys he graduated with—"14-year-old kids!" So he gets a job, in order to avoid any more of the school that discouraged him so completely.

In Winnetka, any child who needs a year and a quarter to do an average year's work in arithmetic *takes* a year and a quarter—not two years. Meanwhile, moreover, he goes right ahead with his other subjects. If he gets far ahead in one of these subjects, he spends less time each day on it, and uses the saved time for his weaker subject. He has the feel of success in some things, although he is slower than his companions in others. Each child, under the Individual Technique, is advanced rapidly, if he is bright, more slowly, *but just as thoroughly*, if he is somewhat less able to grasp new information quickly; still more slowly and care-

fully in his weak subjects. He never repeats grades —the work of an entire year. He never has to feel that he is a failure because he was a little slower than average in some things. If he is faster than his fellows he progresses faster and does not get in the habit of doing work below his full capacity.

Harry's friend, Bob, to take another case from the old-type schools, never actually fails in anything, although his class is a little too fast for him. He just manages to get by, cramming frantically at the end of every year. But it all seems to him pretty hopeless. He never masters the fundamentals and is constantly losing his hold on education. His information is riddled with gaps, and new steps are never clear to him. Yet his teachers "hate to fail him," because he is so nearly doing passing work. His parents force him to study desperately the last week of the term. He passes. But his tragedy lies in the habit he forms of accustoming himself to muddy thinking, to a sort of constant mental fog, to half-knowledge and shoddy work.

Under the Individual Technique, Bob would not find it possible to scramble hazily along in that fashion. He would be subject to searching tests, short but frequent. He would be confronted with the inferior quality of his work when he corrected it himself. He would have to master each

step before he proceeded to the next. Presently he would find himself thinking more clearly and connectedly, and the class would not be too far ahead of him, after all.

The time that is lost, under the lockstep system, in recitations, is saved in Winnetka. There is no reciting, as it is usually thought of. Everybody is working on something different. Each child knows, from the self-instructive material prepared for him, just what his next step is, and he progresses toward it at his own rate. There are discussions, certainly, and plenty of class activities, but there are no questions asked of the entire class, with pupils raising hands and trying to answer them, and valuable time wasted on wrong answers. For the first half-hour in the morning, let us say, one boy is studying arithmetic. He is correcting his work as he goes along, entirely independent of the other children. But when he has finished all that he need do on arithmetic, he doesn't sit around and listen to his twenty-five or thirty classmates tell what he has just learned. He turns to language, or history, or reading, and goes on with his work there.

John—the boy who, in the lockstep school, was so busy whittling a wooden pistol during study period that he had to bluff in recitation, would find the Individual Technique more than a match for

him. Bluffing will not go. He would undertake his first job, to find all the answers right in front of his nose. Lovely. He appropriates the answers promptly, and omits doing the examples. This goes smoothly along until he is suddenly confronted by a test—a short test that takes only three minutes to uncover every gap of ignorance in his defenseless mind, and to expose his unfamiliarity with the methods of working the examples. He fails in almost every example in the test—and the result is an overwhelming amount of additional practice work. After one or two such attempts, he finds himself far behind in work that he knows perfectly well he can do, and do well, if he wants to. Eventually, he does want to. He settles down and does real work, and goes ahead.

In addition to the tremendous gain in confidence and right habits to scholars, one of the chief contributions of the Individual Technique is time saved. Old methods of teaching the more elementary subjects have been shown up as inefficient. The essentials of education—the information that is the tool which children can use for acquiring more information—no longer require the time they once did.

The next thing—the other half of the Individual Technique—is to utilize to best advantage the time saved in learning the common essentials.

Here we come to group activities, to develop both social consciousness and individuality.

Evolution depends upon variation. Only in so far as the individuals of any species vary from their ancestors is it possible for nature to find newer and better ways of maintaining life. Similarly, all human progress depends upon variation of the individual from the normal. It is only as a Marconi tries a brand-new way of sending messages through the air, or as a Lindbergh sets off on a solitary trans-Atlantic flight, that the race moves forward.

Schools in the past have tended to ignore completely the desirability of variation. Variation has been crushed rather than nurtured. The common story of the school failure who becomes a world genius is due to just this stultifying influence—the attempt of schools to standardize education. The genius never fits the standard. He becomes that educational anomaly known as the misfit child.

The new education of to-day in both Europe and America is striving to cultivate children's variability—their variations from the average. This attempt is usually called giving children a chance at self-expression, or creative education. In the newer type of schools, art work is no longer drawing a vase of flowers or group of blocks set

up in front of the classroom. It is, instead, an attempt to stimulate each child's creative imagination—to get each child to express his particular ideas in illustrating a story, in preparing a design, or in interpreting a scene. The Sloyd, which was introduced into American schools from Sweden in the 1890's and constituted such an advance over the purely mental type of school activity, has since given way to freer opportunities for self-expression in wood. In progressive schools, all children no longer make the same joints, or go through the same series of exercises. They create something—a model boat or airplane or sled.

It is upon creative work, or more generally speaking, upon cultivating each individual child's variation from the standard or average, that progress depends.

There are, it is true, places where we do not want children to be original, where we do not want them to vary from the standard. The bare facts of arithmetic, locations in geography, the way letters are formed and words are spelled, constitute a series of knowledges and skills in which children must be like their fellows. This conformity is necessary for effective living in the world as it is to-day. Variation is necessary if we are to have a newer and better world to-morrow.

To develop self-expression and creativeness too

far, to center the whole attention and interest of schools on giving individuals an opportunity to differ from one another, would lead to an individualistic type of education which would in time destroy the cohesiveness of human society. The forces of individualism are centrifugal. They must be balanced by a cohesive pull toward a common center. It is therefore necessary that much of the creative work of individuals be done in connection with some group enterprise.

Children's social consciousness must be developed along with their originality. Any complete form of education must develop a deep and abiding sense of the interdependence of the individuals who make up society as well as stimulate each of those individuals to the fullest possible growth and self-expression.

Practically all really progressive schools, both in Europe and America, are striving toward greater opportunities for self-expression and at the same time toward greater development of group spirit—striving far more earnestly than is the case with traditional schools. In order to achieve these ends, some progressive schools sacrifice thoroughness in traditional knowledge and skill, in order to gain more time for the activities that old-line schools neglect.

The Winnetka public schools are attempting to

bridge the gap between the traditional procedure, with its emphasis on thorough mastery of specified knowledges and skills, and the progressive attitude that emphasizes self-expression and group-work. The balance is achieved through teaching the academic subjects—reading, writing, arithmetic, and the factual side of history and geography—in a more efficient manner than is done in the traditional schools. That is accomplished through the Individual Technique. The additional time saved is used for group and creative activities. Examples of such activities were given in Part II, Chapter II.

When through the Individual Technique these individual differences are at least partly cared for, when time is no longer wasted in classroom explanations and recitations, mastery of the knowledge and skill subjects ceases to require the entire school day. It becomes possible to give something like half of each school day to group and creative activities.

These activities serve no academic purpose. Such academic learning as results from them is largely incidental and fortuitous. The primary and dominating purpose is to stimulate the variations among the children—their creative self-expression—and at the same time train them to

work together, to coördinate their efforts and develop group spirit.

Any knowledge or skills which every child needs will be taught independently—not necessarily out of relation with the group and creative activities, but with a different technique and from a different standpoint. Where the effort is to make children alike, the technique emphasized to make them different cannot be used. They have to be alike in their recognition of a few facts in regard to the Vikings. They have to be alike in their spelling of words used in the "Journalist." They have to be alike in such reckoning as is required by the business management of the "Journalist." To achieve this likeness with children who vary widely in their previous knowledge, in their interests, and in their capacity to learn, individual work must be given. But there must also be group enterprises. And, in the larger sense, these activities are even more important to the future welfare of the race than is the mere mastery of certain specific knowledge and skills.

The courses in social science in Winnetka are midway between the individual mastery of facts on the one hand and the development of a group spirit on the other. They occupy the position of a unifying and correlating center between the two parts of the curriculum.

There are certain facts in history and geography which everyone needs to know. They are as necessary to intelligent living in the world as is the ability to write or spell or work arithmetic problems. Julius Cæsar, for example, is so frequently referred to in periodical literature that to suppose him to be a French sculptor, or an American president, would make impossible the intelligent reading of those writings which allude to him. But to confine the social sciences to ordinary textbook assignments in history and geography, followed by recitations and examinations, is to lose one of their most vital values. They *can* be used to develop a social sense. They can be taught in a way that will bring about a realization of the interdependence of man on man.

In the fourth, fifth and sixth grades of the Winnetka schools a series of social science pamphlets called the Story of Man and the Earth, developed experimentally and scientifically like the Rugg social science pamphlets, forms the basis of the factual work and the stimulus for many of the group activities. In the junior high school the Rugg pamphlets are used.

Taking it altogether, the Winnetka public schools attempt to give children in as efficient a manner as possible, through the recognition of their particular differences, a mastery of those

knowledges and skills which they need in order to function effectively in our present artificial, complex, industrial civilization. Through the Individual Technique, it is possible to teach these knowledges and skills in considerably less time than is ordinarily occupied by them. Consequently, much time is cleared for group and creative activities. These often grow out of the social science work which, while it is individual as to the mastery of the essential facts, is social in its point of view, and is prepared deliberately to inculcate in the children a sense of the unity of mankind. This sense is made real through the wide range of cooperative activities in which the children participate.

These same activities often give the necessary stimulus toward creative work or self-expression through which children are encouraged to vary from one another.

The Winnetka schools—and others working along the same general line—are made to fit widely differing individuals, therefore, in two ways: In giving all children mastery of the commonly needed knowledges and skills, individual differences are allowed for by making it possible for each child to progress at his own rate, sticking to each job until it is completed—100 percent—then going on to the next. And in the group and

creative activities encouragement and scope are given to individual variations, originality and initiative being developed, but developed under social conditions that will make the child aware of his oneness with the group.

The Dalton Plan

It was only a few months after the Winnetka schools began to work out the Individual Technique that Mrs. W. Murry Crane, wife of the late Senator from Massachusetts, invited Miss Helen Parkhurst of the Children's University School in New York to come to Dalton and carry out her "laboratory plan" in the Dalton public high school.

The high school housed something under two hundred pupils; its teachers were able but far from extraordinary. Both pupils and teachers responded with enthusiasm to the new plan.

At the Children's University School a system much like the one that later developed in the Massachusetts high school had been tried out with the younger children. In the town from which the new method of teaching has taken its name, the system is not applied quite as it is in Miss Parkhurst's own school, or in others that have since adopted it. But in the main, "Dalton Plan" schools are similar.

The old-fashioned school gives class assignments daily. Every pupil has to do a certain amount of work every day, or be marked down as failing for that day. Dorothy may be quick with her chemistry and slow at civics, while her cousin Esther reverses the situation and is able to conquer the intricacies of city government much more quickly than she can learn the chemical formula for ammonia. Nevertheless Dorothy and Esther both get as much work to do in their difficult subjects as they do in the ones that come easily to them. Their work is checked up every day, by means of recitations that take a great deal of time and by examinations.

To get away from these drawbacks, under the Dalton Plan the children are given only one problem, or assignment, in each subject for an entire week (or month). At the end of the week they are checked up on the work they have done. They are expected to have mastered the week's assignment, and are marked on it, but they have studied when and as they wished.

In some ways the principle involved is close to that of the Individual Technique. Just as with the Individual Technique, the fundamental aim is to allow each child to proceed at his natural gait, while the emphasis once placed so heavily on recitation hours is lightened. Under the Dalton Plan,

if a student has not finished his assignment in the given week or month he can take more time to it. If he finishes ahead of time in all subjects, he may go on to the next month's "job." Individual progress is possible. Under the Dalton Plan also, recitations are often mere discussions—discussions with opposing sides growing so enthusiastic that they often turn the period into a debate. The students are encouraged to investigate and bring up for discussion anything that interests them. The result is that sometimes an apparently extraneous subject will crop up naturally and the recitation period will take it up and examine it carefully. Often a class in geometry will be suddenly overcome with eagerness to know the purpose and use of geometry, or the life of Euclid! In one Dalton class to which this very thing happened a new teacher was much distressed at the idea of having the prescribed work sidetracked to look up even the life of Euclid. But when, at the end of the term, that particular class showed higher grades than any she had ever taught, she was relieved. More than that, she was convinced that the new attitude showed real interest.

The children themselves are sometimes consulted before a problem is assigned them. In one class on civil government, at the beginning of a week, the teacher explained that a Dalton elec-

tion was due in another month. Besides, some of the pupils would be voting themselves by the time the next presidential election came around. Since that was the case, what would they like to take up in their study of the government, before the Dalton election occurred?

They put their demands in their own form. The president of the class asked: "How do you get to run for an office?"

"I'd like to find out just how you vote," came from the front row.

"What do the people we elect have to do?" came from a serious-minded boy, and another followed him with: "How can we tell what people to vote for?"

All of these questions and many more were taken up by the teacher and discussed with the class at length. From the questions four were to be chosen and studied during the coming month, one a week. Finally the class came to an agreement on the four they most wanted to investigate, and a list was drawn up and recorded in more formal wording:

"To find out whom officials actually represent, and why.

"To find out how we elect officials.

"To find out the duties of the elected officials.

"To find out what a political party consists of."

Some of the pupils wanted to study questions that were not among those the class had picked out. They took on extra work and, with the teacher's help, planned how to do it without neglecting the class work.

There is an air of informality and comfort about the "laboratories" in the Dalton school. Each classroom is called a "subject laboratory." When a child wishes to work on a certain subject he goes to the appropriate "laboratory" where he finds the teacher and the necessary equipment. When the teacher wants to confer with the students, she posts their names on a bulletin board, asking them to report at her "laboratory" at a specified time. Otherwise the children work at one problem until they have finished, or until they want to turn to something else. Then they go to another room and turn to some other subject. They come and go in the rooms at will, and work either together or alone. Freshmen, sophomores, juniors, and seniors may all be working in the same room at the same time. There is no rigid discipline about silence. The students talk if they wish, but not loudly. They do not abuse the freedom they have. Whenever they need to, they talk some particular difficulty over with their teacher who is there to see if anyone needs help.

The freedom to move about from room to room

and to talk is a big improvement upon the old-fashioned strict discipline, which insisted upon absolute silence and rigid posture, until the very repression drove children to fidgeting and restlessness of mind. It is usually harder for the mind to work, and not easier, when children are forced to keep still.

Under the Dalton Plan, the brighter students who have acquired a certain amount of information in much less time than it takes the slower students to grasp it, are ready to go on to more work before their slower companions. This has led to the custom at Dalton and some other places of giving additional assignments to the brighter students. Contact with the teacher during study hours gives pupils a chance to get suggestions for extra work and additional interest. The teacher does his best to see that each student has all the material that he is able to digest at his own natural rate of speed. The slow pupils do as well as they can, and need not be bitterly discouraged or shamed through the public disgrace of failure, still clung to by the old type schools. They, too, have the teacher's help. Two boys, let us say, both know that they have five good stiff pages of Virgil to translate in the coming week. For one of them Latin is easy; he loves it. He works steadily, and finishes the five days' work in three. He ap-

proaches his teacher, who suggests that he do a little outside reading about the life and times of Virgil, or gives him a little taste of more advanced work such as a simple Latin verse to translate. There is always plenty for him to learn; he does not have to stop and stagnate while waiting for his slower friend to catch up. The slow boy, on the other hand, struggles valiantly with his five pages of translation which is, to him, very difficult. Finally it looks as though he will not be able to get the week's work done after all. Again the teacher is called in to help. It is up to him to provide each child with only as much work as he can handle.

This method of procedure under the Dalton plan has its drawbacks. An attitude more typical of progressive schools is that the boy who finishes his Latin early should either go on to the next work or use his time on something else that is interesting or valuable to him—radio, or science or some study in which he is behind. Or, if he *wants* to, more Latin.

The results of the Dalton Plan have been on the whole good. First of all, the work increased in interest for the children. This increase of interest throughout the entire four years' work had an odd effect on the "average" of the school. It is a good deal lower because the poorer students, practically all of whom used to vanish into

the mills and shops when their failure and discouragement became too much for them, and were never seen again, now stick to school. Less than half as many as formerly now drop out before the end of the course. The average high school graduates about thirty-six seniors out of every hundred freshmen who entered four years before. At Dalton recently 39 graduated out of an entering class of 47—more than twice as many as from the average school.

Another interesting feature of the Dalton work is its inexpensiveness. It is true that the students have come to want very much—and to ask for—a newer and bigger library. Their interests are wider than those in ordinary schools, and they look for books in the library, often without finding what they want. But aside from this, the expenditure is kept easily within the ordinary school appropriation. Not an additional cent is needed. The teachers do not need any special training. Equipment, buildings, administration, salaries—nothing costs more than in any other high school.

When the new plan was first introduced into the high school in Dalton, the parents viewed it with some alarm. They felt the school lacked seriously in discipline, and therefore in efficiency. But after the first year or two that difficulty solved itself. Parents began to see that their children really

profited by the new system. They were brighter, more interested, better informed. They discussed their work interestedly at home. They had clearer ideas of what they wanted to do in life, and they were much more self-reliant and individual.

The change in the teachers themselves was just as interesting as the change in the school. The teachers began to learn, too. During the study periods the students came to them with any questions that were bothering them. These questions were just as likely to be on work scheduled for a month ahead as on work scheduled for the next week. Teachers used to be able to get away with it quite easily if they kept a day ahead of their classes. Now they must keep at least a month ahead, and be fairly well posted in matters relative to their subject, which may crop up at any time for discussion.

One class of fourteen-year-old pupils, in their first year, started out to study some branch of history. Through roundabout channels the discussion reached an inquiry into the purposes of education. The principal was conducting this class himself and he began to draw from the students their opinions as to the reasons why they were studying. They worked out a series of principles, and wrote them down on the blackboard. "The purpose of education is to prepare for active life," it

began and went on to say: "This means to grow as rapidly as possible, as far as possible, and in as many ways as possible. Growth comes as the result of experience. Education, therefore, ought to present varied experiences of real life in such a way that they will promote growth, and also to provide the mental facilities needed later in life. The danger is that the experiences will not be real, and so the teacher and pupils ought to keep the purpose of each lesson clearly in mind."

Then the students were asked to write down what they thought ought to be taught in school, so as to carry out this purpose of education. These papers were collected and kept on file. They were as much a key to each pupil as a physician's diagnosis. They show what studies the pupil has selected and in which he is most interested; they suggest what further studies the teacher can introduce to the student in order to broaden his viewpoint and increase his interest. During the study hours, when members of the various classes come to their teachers with their individual problems a fairly close contact between teacher and pupil is possible, which makes it easy for the teacher to supervise the awakening interests of her pupil. There is far more opportunity for this than is the usual recitation period of the old-type

schools where few two-party conversations are possible.

Most of the schools that have attempted a system similar to that in use in Dalton have been private "experimental" schools. Administrators of public schools often hesitate to undertake a new system, or to do any pioneer work of their own, because they assume that it means greater cost, or larger classes, or smaller classes, or some drawback that will not meet with the approval of the existing board. But the Girls' Philadelphia High School, a large city high school, has had the Dalton Plan for several years. In general, it has spread among city school systems, to a larger or a smaller extent, in at least 42 cities—as has the Individual Technique. Dalton itself is proud of the fact that in an ordinary high school with nothing extraordinary in the way of equipment, with average teachers and with nearly two hundred pupils, a mixture of New England, French Canadian, and Irish stock, with additions of different blood now and then, this new plan of study has been successfully established.

Naturally, the Dalton plan is not without its critics—or, for that matter, its weaknesses. Like the method of grouping children in fast and slow groups according to ability, it is in many ways a

halfway, rather than a complete, abolition of bad practices. The system of additional work for bright pupils, as the plan is utilized at Dalton itself, by no means equals the advantages accrued where each is able to proceed indefinitely at his own gait.

One of the most serious arguments advanced against the plan is its tacit encouragement of bad habits in the matter of procrastination. An assignment of work for a whole month is liable to mean a lot of discussion, a lot of putting-off, and a lot of time wasted at the beginning of the month—and a lot of work crowded in at the end of it. Another fault is that it tries to use ordinary textbooks, ordinary recitations and examinations, and any old curriculum instead of a scientifically constructed curriculum, complete diagnostic tests, and mastery by each child of each unit. It still uses the old marking system, and it makes inadequate provision for group and creative activities.

Still, even with its deficiencies, the plan usually provides a big improvement, for those schools adopting it, over the old lockstep, routine, study-and-recite methods.

The Dalton Plan is primarily an *administrative* device for making schools fit individual children. The Individual Technique, like Courtis's, Sutherland's, and Burk's methods of attacking the problem, is primarily *curricular*. The Dalton Plan is a

scheme for organizing the machinery of the school differently—no fixed program, freedom to go to any "subject laboratory," time budgeting by the pupil, mingling of children of various ages in the same classroom, conferences called by the teacher. The other plans and the Individual Technique call for a new type of teaching and testing material, based on a reorganized curriculum. They may be used under any administrative organization—the traditional one, the Platoon Plan, the Dalton Plan—although, to be sure they would necessitate certain important modifications of the traditional organization. Similarly, any curricular technique may be used under the Dalton Plan—traditional, Project Method, or Individual Technique.

What the future organization and curriculum of progressive schools is to be, no one can predict. But there is no doubt but that both in administrative organization and in curriculum, textbooks, and tests, they will break away from the class lockstep and adapt themselves to the individual children for whom they exist.

CHAPTER IV

Child Guidance

No *system* of instruction—not even individualized instruction under the Dalton Plan or the Individual Technique—can render unnecessary the thoughtful, understanding, personal guidance of individual children. Some *person* must be responsible for knowing the child, knowing his home, his interests and his problems, and helping him in his educational adjustments.

Advisors for High School Students

One sees a clear recognition of this need in the "advisor" system found in the better high schools, and even some junior high schools. The advisor, all too often, is merely a "home-room teacher," charged with keeping attendance, handling discipline, and sending out the report cards of the children assigned to him or her. But in the New Trier Township High School (located in Winnetka, but not a part of the Winnetka school system) Frederick Clerk has sensed the importance and possibilities of adequate advisors.

Clerk started out to be a clergyman, but three divinity schools cured him. He went to China, but

in the Chinese Imperial Customs, not as a missionary. Before he left the Orient he was offered the managership of the American Bank in Shanghai. A Chinese amœba prevented his accepting it. In Seattle, and later under Spaulding in Cleveland, he learned school administration. When a fortune was left to the backward and poverty stricken schools of Winchester, Virginia, Clerk was sent for to expend the fortune wisely and to build up a progressive public school system with its help. This he did with outstanding success. It was from Winchester that he was called to New Trier, where he became the highest paid high school principal in America, getting a larger salary than many college presidents.

One of his first undertakings at New Trier was the development of an advisor system.

Pupils entering New Trier—which is a township high school of some 1,500 students—are carefully classified by tests and elementary school records. Twenty to thirty of them are assigned to each advisor. They remain with the same advisor through the entire four years of their high school career.

The advisor must visit the home of every pupil —supposedly during the first year. Clerk sends out a broad hint to the homes to invite the advisor to dinner as early as possible. It is with the ad-

visor that the parent confers on all matters pertaining to the child's school life. The child, too, goes to the advisor for help and counsel and for the planning of courses.

There is one "advisory period" every morning, when the advisor meets all members of his or her advisory group—the whole twenty or thirty of them. This period is the time when, under the chairmanship of the group president, announcements are made, questions of school policy are discussed, social events are planned, or when children may confer individually with the advisor. Twice a week the advisor uses this period for discussing problems of how to study, ethical standards, social behavior, and educational guidance generally. Every afternoon from 3:00 to 3:30 the advisor is available for personal interviews with individual children. The advisory group becomes a small, compact, intimate unit, moving through school together, however divergent the academic programs or extra-curricular activities of the children.

The advisor *never* disciplines. Disciplining is done by the dean of boys or dean of girls. The advisor, if anything, acts as a defender of the advisee, or at least as an interpreter of him or her to the dean. And the advisor never violates the

confidence of a child, or uses a confidence against him.

Asked if all teachers are fit to be advisors, Mr. Clerk says: "No. We have had to take advisorship away from some teachers, and have found that there are others whom we never cared to trust with this responsibility. But a poor advisor is seldom or never a good teacher—to be a good teacher one must know children and be able to secure their confidence; these are the very qualities required in an advisor."

Clerk's work at New Trier illustrates another important phase of child guidance—the development of hobbies as a desirable use of leisure, and as an emotional and creative outlet. Extra-curricular activities, as they have come to be called, are an important part of the better high schools of to-day. The list of clubs in which students may participate at New Trier is monotonously long—to the reader; it is rich in opportunities to the student. There are clubs related to regular instruction—Latin Club, French Club, Spanish Club, German Club, Mathematics Club, and so on; in these clubs students' interests in "playing around" with the subject have scope. Then there is the music club (not to mention orchestra, band, chorus, and glee clubs); the dramatic club, a stamp club,

a rifle club, a "scribbler's" club, a bird club, a camera club, and so on and on and on. Any red blooded youngster can find in one or more of these clubs, or in intramural athletics, outlet for his energies, and hobbies for his leisure later in life.

The right use of leisure is important to society and to the individual. Leisure is here for the bulk of mankind—at least in America with an eight-hour day widely prevalent. Is it to be used in idleness or worse? Is it to be used in mere passive recipiency, as at movies, or in listening to the radio? Or is it to be used creatively or socially for the development and socialization of the individual? With specialization of labor, few people have the joy of creative work. Yet creative tendencies are present in every individual. To give these an outlet is necessary to emotional well-being, lest they fester.

So important does Merle Prunty, principal of the Tulsa, Oklahoma, high school, consider the creative and hobby activities of his students that he refuses to call them "extra-curricular." "They are a vital part of our curriculum!" he exclaims.

One significant detail of Schneider's educational philosophy showed itself in his encouragement of hobbies. He turned over the basement of one of the engineering buildings to the students for club

use, and sponsored the formation of different organizations to occupy it—an art club, a newspaper club, a chess and checker club, a stamp collecting club. Every student was encouraged to join one or another of these organizations, and give time to it as regularly as to any regular class.

At Rochester the same idea crops up in the junior high schools. There are courses in appreciation of music, for instance. Seventh and eighth grade children learn to distinguish a viola from a violin by ear, and can pick out the notes of a bassoon, the "clown of the instruments," from the swaying harmonies of a full orchestra. There are also clubs, as at Cincinnati, New Trier and Tulsa —radio clubs, model yacht clubs, more clubs than you can think of—housed in the school buildings, given allotted hours as seriously as regular classes, and encouraged by teachers.

All over the country, in greater or less degree, the same idea is to be found in the more advanced schools.

Valuable in themselves, these means of developing children's interests have a but dimly visioned further function. Through them one can sound the child's interests and enthusiasms; through them one can often get hold of the difficult child; through them many a child is saved from becoming a problem.

Teachers in elementary grades in some progressive schools realize something of the emotional-outlet value of creative activities. Indeed "Creative Education" has now for two successive years been made the subject of a special half day sectional program for the largest and most important American educational convention—the Department of Superintendence of the N. E. A. Creative work in art, music, and literature is characteristic of many progressive schools. Creative work is, in a sense, the basis of the project method.

But while creative education, and the development of hobbies and special interests, give emotional outlets and enable one to understand children better, they are far from preventing all maladjustments. And while advisors, like those at New Trier, can give much helpful guidance, they cannot in the nature of things all be expert psychologists. Serious cases of maladjustment, problem children, require more expert, specialized guidance.

Mental Hygiene

To this end we have such organizations as the Child Guidance Clinic in Minneapolis, and the Institute for Juvenile Research in Chicago. Here trained psychologists and psychiatrists make detailed case studies of the individual children referred to them—they confer with parents, they

give intelligence tests, they try to get to the bottom of the child's difficulty and to adjust it.

One of the most valuable contributions, made by Arthur H. Sutherland during his years as the head of the experimental work of the city schools of Los Angeles, was to further our knowledge of how much can be done in this field to give children a better start.

Let us suppose we are in one of the "adjustment rooms" of the Los Angeles public schools under the Sutherland régime. We notice a plain, clean little girl in a blue gingham dress. Her hair is drawn tightly back from her forehead and braided just as tightly in a short "pig-tail" behind. She cannot be more than twelve years old, but in her brown eyes and on her pinched little face is a worried, anxious look that is almost middle-aged. It is a thing to make us gulp—this harassed, careworn look on a little girl of twelve.

She is two years behind her grade. A "backward" child. Failure is claiming her. Already she is coming to believe herself stupid, inferior. It seems bitterly unfair; she is such a nice youngster. Just by looking at her serious little face and straightforward brown eyes we can tell she deserves the best there is instead of having the joy of life taken away at the very start.

"Watch closely," the teacher says to us in a low

voice, "when I praise her." For a moment she compares a card the little girl has given her with one on her own desk, then speaks with a smile:

"Why, Rose, your number work is all finished! You've done splendidly."

The little girl winces as though she had been struck. It looks for a moment as though she would burst into tears. Then she turns and walks back to her seat, holding herself in check as tightly as her own stiff little pig-tail. The teacher turns to us.

"She's a difficult case. But when she begins to get confidence in herself again, it won't be so hard."

"What's the trouble?" we ask.

"Mistakes in her early training, mostly. She's such a conscientious little thing—she took her work too slowly at first, I suppose, and her teachers thought it was stupidity. Now she's got the habit of failure. Unless we can get her straightened out, it'll be hard for her—all her life."

More than twenty percent of all the children in American public schools are like Rose—behind their grade. More than four million. Some of our own youngsters may be among them.

"A doctor," says Dr. Sutherland, in explaining what he calls "mental hygiene," "would not be

much use if he could only diagnose a patient's trouble as 'lack of health.' He must know whether to prescribe a pill for a sluggish liver or a tonic for the blood. We've got to learn to do the same thing with children's minds. 'Lack of mental ability' is too general a term. We've got to be able to find out what is wrong."

From his appearance we would hardly guess Dr. Sutherland has been doing work the results of which could save millions of dollars to American schools, and a hundred times more important, save thousands of children from failure—and point them towards happiness and success. He is as careless of his looks as the most absent-minded college professor. He seems to be thinking about something in the next room, and utterly unconscious of whether or not his trousers bag at the knees. He is the type of man with whom theory is continually running on ahead of practice; but the results he has secured have brought him attention from all over the country.

Analyzing children's minds, Sutherland classified some seventeen mental processes that are commonly used. When a boy reads aloud he uses a mental process different from the one he uses when he is reading silently for memory. When he tries to find out what a sentence means, the mental process is again different. The problem with re-

tarded children—who are not definitely feeble-minded—is to find which of the various mental mechanisms are faulty, and bring them up to normal. Just as a director of physical training might prescribe one course of exercises for round shoulders, and another for fallen arches.

"The greatest defect of our old-line public schools to-day, the thing that gives us so many cases needing Mental Hygiene," he says, curiously enough, "is the accounting system.

"Suppose," he explains, "all the teachers in a particular school stood outside the building in a circle, armed with clubs to keep the children in until the end of school hours. The cost per pupil per year for that school would be just the same as any other. There's our trouble. We estimate only what it costs to care for each child in school per year. We don't put any premium whatever on mental advance. Instead of 'cost per child per year,' it should be 'cost per child per year's advance.' The main reason so many children are behind their grade is faulty training. If our school accounting system penalized faulty training—if it favored schools where pupils moved forward mentally to the greatest possible extent for each dollar expended—it would revolutionize American education."

One February class of forty-five pupils in a

Los Angeles "adjustment class" completed an experimental six weeks of training under Sutherland's assistants in the psychology department. They were the slowest pupils in the school. They averaged something like three terms behind the normal grades for their age. The adjustment teachers had them only two hours a day—sixty hours in all. The rest of their school time went into ordinary school activities—opening exercises, manual training, supervised play. During those six weeks they covered, on an average, more than twelve weeks of ordinary school work. When, in June, they were reclassified, it was found that they had averaged a school gain of fifteen months. In general, those who, at the start, were farthest behind, made the biggest gains.

Guy, twelve years old, could not pronounce the six italicized words in this sentence: "I *turned* the *pages very* slowly to *guess* the *answers* from the *pictures*." One can imagine his stumbling through a paragraph in front of his classmates. He was one of the school's problems. When he was able to read easily such a sentence as "The attendant at the entrance had no objection to our disturbing the meeting," he was a different boy. Pride and confidence changed the whole expression of his face. Even the position of his head and shoulders was changed.

James, eleven and a half, had a younger brother who was promoted above him. James carried the mark of failure in his eyes, walk, and voice. Among other lacks he was unable to reason such problems as: "There are 23 boys and 26 girls in room 9. How many pupils are in room 9?" With him, it was not reading, but arithmetic. He couldn't add 4 and 5, or 6 and 2, nor subtract 7 from 9. The sight of figures in a problem created a panic, which made reasoning impossible. When he became the proud conqueror of figures in these two simple processes he suddenly passed reasoning tests of two grades above. It was a proud moment when he was able to explain a problem to his younger brother.

Fred, also eleven and a half, was a very bright boy. He preferred to get results by trickery and cheating even where he was able to do good work. It was more fascinating to reach a goal by a dangerous path. He was given individual work where cheating gave no results, and at the same time was shown his real ability. His reading accuracy jumped five terms in six weeks. He became so interested in doing his work well that he seemed to have forgotten the former habits that might soon have branded him "criminally inclined."

"A large part of the so-called 'dullness' in school children everywhere," Dr. Sutherland con-

cludes, "has been created by their school experience and is therefore still partially removable by teaching specifically directed to fit their particular needs. The teacher of slow or 'dull' children must know how to analyze educational troubles and how to give reconstructive training. Otherwise, she is no better than the others who have preceded her."

Teachers, as well as students, develop under "mental hygiene." "A 'failed' test," Sutherland says, "gives a teacher her most interesting opportunity—to find the real cause of the failure, and give the best remedy at her command. Although a teacher untrained in such work may find it difficult at first, she soon learns that her power of analysis is becoming surer as well as quicker, while her inventive skill develops surprisingly. Her opinion of herself as a teacher, and her effectiveness, begin to 'curve upward' just as her pupils' learning charts do. The work does for the teacher just what it does for the children: it gives her a chance to discover her own natural ability. And when a teacher is able to find and correct the emotional causes of failure such as fear, discouragement, and self-depreciation, she becomes a real artist."

The personnel of the slow group children is a continual source of surprise to those connected with "mental hygiene" work. It is true that they

are the lowest group in the school educationally; but the idea that they are the lowest mentally is a dangerous mistake. A slow group usually contains children of all degrees of mentality and ability. The only characteristic common to all is what Sutherland calls a "complicated educational condition." That means that instead of being necessarily "dull," they are merely harder to teach. That is why they are behind.

Sutherland stresses particularly the need of each child for self-confidence. He blames the present system of faulty training for frequently breaking down self-confidence, and making a failure of a child that previously had the elements of success. "A retarded pupil must first prove to himself that he can learn," he says. "Then he can prove it to others."

In all, Los Angeles has about seventy-five rooms for slow-group children. There are the so-called "adjustment rooms." There are sixty-five "development" rooms for children definitely shown to be feeble-minded. "To keep a development case, a child that is really of low mentality, in a room with normal children," says Sutherland, "is merely stupid cruelty."

Under Sutherland's guidance, the department of psychology and experimental research inaugurated a reform of teaching methods in the matter

of student conduct and discipline. The idea was to form better conduct habits and attitudes for pupils, instead of to tolerate bad ones or make them worse.

Here is a paper called "A Partial Outline for the Study of Undesirable Conduct" distributed some years ago to Los Angeles teachers, so illuminating and suggestive as to be worth quoting in full:

A Guide for the Teacher's Observations of Difficult Pupils

In an ideal school room the business of education will so engross pupils and teacher that no attention needs to be given to the management or "discipline" of the room. When the teacher does police and judge duty, pupils are receiving an unsocial training. The actual responsibility should be upon those who need training in responsibility, although there should be little consciousness of this responsibility.

There will, however, occasionally arise some undesirable conditions. The teacher who uses a few patent remedies which are directed toward removing the undesirable *effects* instead of the causes of these effects, is giving a training neither social nor moral. To remedy the difficulties in the rare pupil who is a social problem she must have a scientific attitude toward the situation. Then she will observe the conditions impartially and attempt only

such remedies as will be harmless if they are not curative. She will have the same attitude toward a fault in the social foundation that she has toward one in a number or reading foundation. She will know that when a penalty is necessary a self chosen one is sure to be the most effective. She will know that the open use of such words as "bad," "lazy," "careless," "cheating," "nervous," and so on will bring more fruit of the same kind. She will know this to be equally true of a "don't you dare" teacher attitude. She will prevent public criticism or discussion of most offenses not only because it is unfair bullying but because it multiplies the difficulties of corrective treatment. She will do very little "preaching" or "moralizing" at preadolescent children for fear of dulling their sensitiveness in ethical matters or of making them morbidly sensitive.

She will use the same technique in encouraging a moral improvement as in encouraging an improvement in oral reading. She will control conditions so that the pupil does the motivating and records his improvements. The graph (which should be kept secret between pupil and teacher) is as useful here as elsewhere.

The following outline may be used as a partial guide in the study of difficult cases.

CHAPTER V

Some New Principles

HENRY C. MORRISON, professor of education in the University of Chicago, has made an interesting analysis of the different stages of education. Restating known truths from a somewhat new viewpoint, he gives a stimulating interpretation of phases of American education hitherto almost unrecognized.

The Three Stages of Education

There are, he points out, three stages of education, three great steps between kindergarten and full educational maturity. The first is in the acquisition of the tools of learning—the skills and knowledge that we have come to think of as "the common essentials" or "three R's." Reading, writing, and arithmetic are the means by which further information can be acquired. Without them, educational progress is difficult, if not impossible. Reading must be mastered to a point that leaves the reader unconscious of his mental processes in the mechanism of reading; he must be able to think of, and concentrate on, the subject matter

of his reading. If unfamiliar words intrude, if questions of pronunciation leave him wondering or puzzled, he cannot get the full value of the material. He has not yet mastered this tool by which he can dig out more information.

In the same way, the ability to write without having to think about the mechanics of writing is, in our present civilization, necessary for the full acquisition of further knowledge. The ability to make a record, to take notes, to supplement memory with more lasting landmarks, is essential to progress beyond rudimentary educational stages.

Arithmetical processes, also, are a part of the mental machinery required for educational advance. Without being able to use arithmetic, at least in the simpler forms, we cannot do the necessary reasoning and organizing demanded in getting anything more than exceedingly simple information.

Until he has mastered the use of reading, writing, and arithmetic no child is able to go ahead and get further information freely. This, to Morrison, marks the elementary school pupil. Until he has mastered the tools of learning he remains in the elementary stage, whether in one way or another he has succeeded in reaching the third grade or the twelfth.

The second stage is that through which a stu-

dent passes between the time he has mastered the tools of learning, and the time when he can step out to acquire further knowledge without the assistance of a teacher. It is essentially the period of learning how to study. It usually lasts, according to Morrison, from about the age of ten to the age of seventeen. As long as he is dependent on the stimulation or advice or guidance or discipline of someone else, he remains in the secondary stage—essentially a secondary school student.

If Morrison's educational theories are sound, there must be something altogether wrong with our traditional American schools and educational methods. There are too many cases of college students who are utterly dependent upon the guidance, assistance and coercion of professors and instructors. In some colleges that is the prevailing state of affairs. But according to Morrison these collegians are still, in the essentials of education, secondary school pupils—or should be so classed.

A second necessary conclusion is that our accepted distinction between primary and early elementary grades, on the one hand, and the junior and senior high schools on the other, is a thoroughly artificial one. It is quite arbitrary, and made for convenience only. You can go into almost any big high school and find at least occa-

sional students unable to read anything more difficult than comparatively simple passages without obvious hesitation. They have not yet mastered one of the essential tools of learning; according to Morrison's classification, they should still be elementary school pupils. On the other hand, we can find plenty of children still in fourth or fifth grade who are able to read and write with fluency, as well as to figure rapidly and accurately.

The third of Morrison's educational stages is reached when a student comes to the point beyond which he is able to travel alone. When he reaches that stage he can lay his own course, do his own reporting, look up references for himself, and compare authorities without having to be advised to do so.

Few American schools are yet equipped to meet the educational requirements of the three stages that Morrison points out. Schools operating under the Individual Technique, perhaps, come closest to it, and even in these institutions there has been as yet little clear recognition of the three basic educational stages with their differing requirements. But a good many progressive schools have reached the point of feeling aroused to give pupils, no matter how they are graded, a chance to work in the way, as well as on the material, that suits them best.

A good many schools, for example, have instituted what are called opportunity classes. In the Eastern states, these, more frequently than not, are for misfit students who are behind in their grade. They are supposed to give them an opportunity to catch up. Frequently, for those unfortunate victims of the lockstep, who, with good mental equipment, have been forced behind their regimental comrades because of individual handicaps or peculiarities, these opportunity classes seem sent direct from heaven. They often afford a miraculous chance to climb back to the prestige and confidence of equality.

In some cities of the Middle West and in still more cities of the Pacific Coast, opportunity classes are formed for a somewhat different purpose—to give opportunity for exceptional children to forge still further ahead. In one of the Los Angeles schools an opportunity class that fires the imagination has been created. Here are some twenty children selected as exceptional from several hundred, who, although still rated as elementary school students under the old chronological classification, have already reached the third of Morrison's educational stages. They range in age from nine to thirteen. The teacher is free to come and go as she pleases; her presence in the room makes no difference in the quiet, studious attitude of these

children in her charge; they are all intent on individual tasks that have become absorbing to them.

Here is a girl of eleven, with a pile of magazines on the desk beside her. She has hunted them out, and brought them herself from the school library. She is at work on an assignment that has been given her in civics—checking up on a proposed amendment to the state constitution that is to come before the California voters at the next election. The assignment was given her, but her work in securing her data, in organizing and preparing it, is all her own. If she is unable to find the answer to a question she can go to her teacher with it, if the teacher happens to be in the room. Or, for the matter of that, she can start out to hunt for her teacher or go to one of the other teachers or the principal, or even—after securing permission—to the public library. At the University of Southern California, less than a mile away from where she is working, there are hundreds of students who have not yet reached her educational maturity. Yet in most cities of the East she would have to go ahead only grade by grade, held back even from high school opportunities because of her age, and probably denied full opportunity for all-around development and driven into unhealthy mental isolation because of being regarded as a prodigy.

Extending the Limits of Secondary Education

Another beginning in the direction indicated by Morrison is in the junior high school and junior college movements, which extend the secondary school both down and up. The first six grades are thereby made the period for tool-mastery, for making what Morrison would call the reading, writing and arithmetic adaptations. To a large extent this is exactly what the first six grades in school concentrate upon; and to a considerable extent they achieve their purpose—that is to say, most children who finish sixth grade in a good school system can read without thinking about *how* they read, can add, subtract, multiply and divide reasonably easily and accurately, and can express themselves in writing without thinking much about the mechanics of writing, spelling, punctuation, etc.—although, to be sure, their penmanship, spelling and punctuation are such that we often wish they were giving them more thought!

The junior college, similarly, by being often a part of a high school, as at Joliet, Illinois, and many other places, carries the secondary phase of education upward two years. This is a recognition that college students in their first two years at least, have not usually passed the secondary phase of their education. The junior college, it is

true, is not in any sense a result of Morrison's teachings, any more than the junior high school is. These two movements began for quite independent reasons; but they have been partly due to a recognition of the fact that somewhat similar methods—i.e., secondary school methods—are applicable to the majority of students between the ages of eleven and twenty.

Stanford University is perhaps the first to recognize completely and definitely the secondary school nature of the first two collegiate years. Students are no longer admitted to Stanford as freshmen and sophomores. They are expected to get these first two years in one of California's numerous junior colleges, or in the first two years of some college or university still offering this secondary type of education. Other universities, less daring than Stanford, have marked off the end of the first two years by granting a "junior certificate," or a degree of "associate," and allowing much more freedom in choosing courses in the last two years of undergraduate work. For years the University of Chicago, for example, has been divided into junior college and senior college, with different deans and different requirements.

All this is a recognition of the fact that secondary education is much more than four years long, and a less clear recognition that primary

and elementary education on the one hand and university education on the other are of a quite different nature. But there the recognition in fact of Morrison's principles almost stops. Much of the methodology of the primary grades, as Morrison truly points out, is used in the secondary schools—drill is as definite in algebra as in long division; facts are as much stressed in high school —and often college—history as in the history and geography courses of the lower grades; Latin grammar, even modern languages, and science, are still mainly taught as knowledges and skills rather than as means to thinking. And the universities all too often carry into the senior college, and sometimes into the graduate schools, the technique, if not of primary education, at least of secondary schooling. Only a few of our universities are definitely breaking away from this methodology—Antioch, of course, which is a leader in this field as in others; and Princeton, Dartmouth, and Swarthmore, with their courses for "Honor Students" or their "Oxford Plan," by which certain students have a definite job to do and do it, not being required to attend all classes, but merely being checked up by comprehensive examinations when the work as a whole is completed. These, and in some ways Meiklejohn's Experimental College at the University of Wisconsin, are gropings

in the general direction of Morrison's concept of university education proper—at least they are a breaking away from the old secondary school type of college work, and an attempt to arouse the initiative and independence of the student in pursuit of wisdom.

Education for Mastery

Morrison launches a second powerful arrow at his educational target. He points out that our method of testing knowledge and ability by performance, by recitation and cursory examination, is inefficient, unscientific, inaccurate, and harmful. The real mastery, he believes, of any knowledge or skill makes a definite change in the student acquiring that knowledge or skill—an ascertainable shift in attitude—a measurable gain in appreciation or ability. Once a child has definitely learned that the earth is round and is continually circling the sun, his attitude toward both bodies is changed. To him the sun will never again be merely a brilliant disk traveling from below the earth's surface on the east to below the earth's surface on the west. His knowledge has become a part of his outlook on the world about him. But the average recitation, the average examination paper, affords no real test of whether or not he

has acquired this changed attitude that means mastery of the subject. He could study his textbook for lesson performance only, recite glibly, and even pass an examination satisfactorily, without ever really mastering the subject, applying his knowledge to actual experience, or changing his attitude or outlook.

And right here is the practical difficulty at present in any attempt to carry Morrison's ideas fully into practice. We don't know how to measure the kind of mastery about which Morrison is talking —the "biological adaptation" of the student to the new outlook. Furthermore, it is doubtful whether a student reaches this adaptation in all subjects at the same time—he almost surely does not. The practical difficulties of organizing a school to meet these irregularities are far greater than the difficulties of meeting different rates of learning, or different types of interest—at least no one has as yet, so far as we know, organized any public schools on a basis that begins to approach Morrison's ideal. To the casual observer, at least, even Morrison's own laboratory schools at the University of Chicago have much more in common with the general run of better schools than they have with the new type of organization, the new recognition of the meaning of mastery and the distinc-

tions between primary, secondary, and university education, that Morrison so ably and thought-provokingly advocates.

Yet no one can read with care Morrison's *Principles of Secondary Education* without feeling that somehow, sometime, better schools are going to result from the attempt to embody his principles and recognize his distinctions, in practice.

CHAPTER VI

The Ends of Education

Toward what goal is the new education moving?

Primarily toward the fullest possible development of each individual child. Such development necessarily includes preparation for effective, coordinated participation in present day society; it includes developing the originality and initiative, the *differences,* of each individual; it includes the development of a realization of the interdependence of man on man—an enlightened social consciousness. And it includes the development and right direction of each individual's emotional life.

As we watch the gropings of better schools, as we follow the direction of their growth, as they are drawn toward the light which they feel but do not yet clearly see, like the underground shoots of sprouting seeds, we can envisage the education of the future. We can see it using means foreshadowed by those used in to-day's better schools, toward the following definite ends:

The Aims of Better Schools

1. *Soundness of body.* The Greeks strove toward this end and achieved it. The Romans bore

it in mind as a goal of education—*mens sana in corpore sano*. But the unworldliness of the middle ages diverted schools from it. Only to-day, through playground work, physical education, and health education, has it again become an important—a really vital—objective.

2. *Skill of muscle—coördination of hand and mind*. This the craftsmen of the middle ages and up to the last century gave their apprentices. But with the coming of a machine age and division of labor arose the necessity for incorporating it in the school. Froebel, and later Montessori, brought it into the kindergarten and primary grades. Sloyd, growing into shop work of all kinds, brought it into the upper grades. To-day it is getting new impetus from the junior high school movement and the movement toward platoon schools. It still is a somewhat hazy goal, but is undoubtedly a part of the education of to-morrow.

3. *Efficiency in a vocation to which one is naturally adapted*. Again the schools of to-day have to replace the apprentice system of yesterday. They tend to work more wisely than did that system, giving more freedom of choice and more information to each child. In junior high schools there are finding courses in which children can learn something of the various occupations and discover for which they are best fitted. On the

college level, again, under the Cincinnati and Antioch coöperative plans, students can feel their way toward the vocation most in line with their natural aptitudes. And in the vocational and technical high schools, and the professional schools of our universities, it is fast becoming possible for students to secure real training for their work in life. Far too few of the boys and girls even yet have a chance to explore different vocations and then be well trained in one. But more are getting these opportunities every day.

4. *Hobbies for wise use of leisure time.* One sees this trend particularly in the clubs and extra-curricular activities of junior and senior high schools. The need for it has grown as a machine age has made working hours shorter, and as automobiles, movies, and radios have made purely passive recreation all too easy. The creative and social kinds of recreation are fostered by those schools which have dramatics, art metal craft courses, or clubs, or any of the numerous hobby-developing activities found in the better schools of to-day.

5. *Mastery of the tools of learning.* The good old three R's are no longer the sole purpose of schooling. But neither are they to be crowded out by the many functions which a new era is forcing the schools to assume. Rather, they are to be mas-

tered more thoroughly and more efficiently. Scientific studies are showing that some things formerly taught are unnecessary. They are showing us much more effective means of giving mastery of the essential skills. Through the substitution of individual methods of learning for the old class lockstep, they are making it possible to teach the tool subjects better and in much less time.

6. *Knowledge of essential facts, as determined by research.* Like the skills, these facts must remain in our curriculum—children still must know that Paris is a city in France, and that Cæsar was a Roman general. But the facts are being carefully culled, and those of doubtful usefulness are being eliminated by scientific studies. And the facts are no longer taught as isolated answers to questions as they were a couple of generations ago, nor will they long be taught in condensed, dry, history and geography textbooks, as they still are in many schools to-day. The schools of the future, like some of the better schools of the present, will give children mastery of essential knowledge, but will give it in relation to big movements, in a rich setting of story and picture and action, often directed toward an intelligent attack on present day problems.

7. *An inquiring mind, interested and alert.* Passive education, the swallowing of textbook

paragraphs and regurgitating them to order, undigested, is becoming relegated to the past. Instead, the child is being encouraged in his curiosities and interests, and shown how to satisfy them. Furthermore, instead of being indoctrinated with the philosophy of their parents and the school authorities, the children in some better schools are being taught to think for themselves—to weigh both sides of a question; to recognize, of course, as an essential consideration, what the prevailing attitude is of parents and teachers, but not to accept it blindly.

8. *Ability to pursue knowledge independently.* There are few points at which the new education differs more from the old than in the conscious attempt to achieve this end. Textbooks give way to reference books. Mere knowledge of facts is subordinate to ability to find facts. Some progressive educators go so far as to substitute this aim for fact knowledge entirely—at least in theory; but that is an extreme swing of the pendulum. For one obviously cannot pursue knowledge independently unless he has enough knowledge to orient himself—a sketch map, so to speak, from which he can locate certain landmarks. The old education confined itself largely to these landmarks, and became encyclopedic in its attempt to give the child a complete map, ready for all con-

tingencies—apothecaries' weights; square root; cube root; boundaries of states; long lists of battles and dates; and so on at great length. The new education expects the child to be able to make—or find—a detailed map when he starts on his journey of life—it equips him with tools, with a select and relatively small number of essential facts, *and* the ability to use these in independent pursuit of further knowledge in any field. Few if any schools have achieved this goal fully; but the project method is an attempt to reach it; the idea of children doing "research" permeates many of the better schools to-day; and in Morrison's philosophy it is the goal of all secondary education.

9. *Contact with life.* The popular cartoons of the college graduate armed with diplomas, high-falutin ideas, and little common sense knowledge of the world, have far too much truth in them still. But at the present rate of progress such cartoons will soon be as out of date as are women's bathing suits of the '90's. Agricultural extension courses, vocational training, coöperative education as at Antioch and Cincinnati, are giving contact with life with a vengeance. Prevocational courses in junior high schools, and commercial and technical courses in senior highs, serve, to some extent, the same purpose. But more hopeful than all, because, so far, more general, is the practical note

that pervades all the newer curricula from primary grades up, until, very tenuously, it reaches the undergraduate courses of the rank and file of universities. There is a long way yet to go; but the rate of progress in this direction is encouragingly rapid.

10. *The habit of settling social problems thoughtfully and in the light of knowledge.* This is not the same as ability to pursue knowledge independently—one might pursue it with great success and yet fail to use it in settling the problems that confront every citizen. A great research scientist is not necessarily a wise statesman; sometimes he doesn't even vote intelligently—or at all. It is the aim of some better schools and of many progressive educators, to give future citizens, while they are in the making, the *habit* of weighing both sides of a question, of looking up necessary facts, and of acting in the light of knowledge. This is more than the possession of an inquiring mind; it is the possession and *use* of a scientific attitude in all human problems. Rugg's Social Science Pamphlets are an effort in this direction; so are the various experiments in self-government. But the complete achievement of this goal, vital as it is to human welfare, is still apparently far in the future.

11. *Large-group consciousness, or a* REALIZA-

TION *of the interdependence of mankind.* We know far too little about this goal. Bobbitt has written lucidly of it. The group and creative activities in Winnetka are directed primarily toward it. It is striven for, often unconsciously, in the development of team spirit and sportsmanship on the playground and in the arousing of civic consciousness. Patriotism is a valuable element of it, provided it is not the provincial, arrogant type of patriotism. The kind of patriotism which identifies oneself with one's country, and which therefore takes the attitude toward other countries that any enlightened individual takes to other members of his own group, is an invaluable step toward large-group consciousness. There is a kind of internationalism which ignores one's identity with his own nation and would tend to destroy national unity and responsibility; this is not group consciousness in the best sense. And there is the other extreme of national egotism and self-centeredness that makes for war. True large-group consciousness avoids both extremes. It recognizes the world group as made up of national groups, and these in turn of smaller groups, each of which has its own vital functions in the life of mankind, like the organs in the human body.

12. *Emotional control and development, with freedom from harmful inhibitions.* This is in some

ways the most important goal of all. And it is the farthest off. We know deplorably little about it. Character education is being recognized as important; but usually it is pitiably superficial; and not infrequently it ignorantly imposes inhibitions that have extremely undesirable effects. Sutherland's work when he was in Los Angeles, the Minneapolis Child-Guidance Clinic, and Dr. Herman Adler's Institute for Juvenile Research in Chicago, throw important light on the problem of emotional control. We know in general that it is possible for individuals to control and direct their emotions in a desirable way, and that probably more of the world's evils arise from uncontrolled emotions, and harmful inhibitions, than from any other one cause; while the desirable emotions, such, for instance, as love, in its best sense, and enthusiasm, are responsible, when rightly directed, for much of what is good in the world. But when it comes to the question of developing the emotional, or spiritual, side of the child wisely, of showing him how to control and direct his emotions, of how to use them for his own best interest and that of his fellows, we are so far from the light that we scarcely know in what direction to look for it. Yet certainly the right emotional development of each individual is one of the most fundamental objectives of education.

Two Movements in To-day's Education

In striving to achieve these aims the better schools of to-day are participating in one or both of two important movements. These movements, while complementary, are usually distinct. The first may be described as child-centered, the second as society-centered. The first concentrates on the developing child himself—what does *he* need at each stage of growth? The second focuses its attention on the demands of adult society—what does society demand of the individual?

Of course complete development of the individual must include social development and development of the ability to meet social needs—that's why the two movements are complementary. But the method of attack and the focus of attention is quite different for each.

The child-centered movement finds expression in the Progressive Education Association, in certain progressive, private experimental schools, and in a general influence toward freedom, self-expression, and creative activity in all better schools. The society-centered movement expresses itself through research departments in universities and public school systems, and in various research organizations. Its influence is dominant in most of the better American public schools.

The child-centered movement studies the child as a growing organism in need of various types of nutriment. In organizing a curriculum, insofar as it organizes one, it is seeking to meet the child's needs.

Physical education, *per se*, is largely child centered—what muscle groups need exercise, what games fit the child at this or that stage of growth, what defects need remedying? While recognizing, of course, the social value of a sound body, social demands are not the main center of attention to the physical educationist. He is interested in the child himself. Kindergarteners, Montessori teachers, and primary grade teachers, in developing coordination, are centering their attention on the growing child's needs, not society's demands. So, too, are those who help children develop hobbies, who develop leisure occupations, and those who are interested in "creative education." And such work as has been done in the field of emotional control and direction is basically child centered.

The society-centered movement, on the other hand, studies what the world demands and how the child can be trained to meet this demand. Vocational training is an almost perfect example of this movement. When one trains an accountant one's attention is focussed primarily on what society demands of accountants, not on how that per-

son may reach the highest plane of development and happiness. In giving mastery of skills and facts, in training children to attack social problems intelligently, even in the development of group consciousness, the demands of society are paramount.

These two movements have not been clearly enough recognized up to now. There is consequently confusion in thinking and a failure on the part of people in better schools working in the different fields to understand each other's viewpoint. Unfortunately the bulk of scientific work in America has been in the society-centered movement. Even so fundamentally child-centered a thing as the intelligence test has been used mainly for the purpose of finding how much knowledge or skill the child can absorb. Standardized tests, methods of teaching, curriculum studies, school surveys, statistical methods and procedures, have been primarily centered on what society demands of children and how well schools are meeting those demands.

There has been a little scientific work (but surprisingly little) as to how we can best develop a child physically; and some work—but again all too little—as to mental and emotional development. Most of the work in the child-development field, however, is based on deductive reasoning,

philosophy, theory, and unrecorded observation. This results in its being ignored, or at least, belittled, by scientific workers in the society-centered field. Yet those who are concentrating on fulfilling the needs of the developing child know that this is a vitally important function of education.

Those schools and educators primarily interested in child development need to work out techniques of measuring their results different from the techniques which have begun to mark the workers in the society-centered movement, but equally painstaking and scientific. And the society-centered workers, to achieve their social aims, need far more concentration on the needs and interests of individual children of various ages.

A wise Oriental has expressed the complementary nature of the two movements tersely and profoundly: "In the world's good is one's own; in one's own good is the world's."

Western civilization has reached the point where it will use knowledge either to destroy itself, or to advance to undreamed of heights. Which it will do is being determined in the schools of to-day and to-morrow.

Educational science has just arisen and has shed its light as yet on only a small part of the educational world. As one looks at the great mass of schools, almost untouched by the new day, one's

heart sinks in despair. But as one goes into the better schools, as one talks with the leaders of educational thought, as one watches the unprecedentedly swift advance of educational science, one's hopes mount high.

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